TECHNOLOGY DEPARTMENT

NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

EQUIPMENT • IMPROVEMENTS • PROCESSES • MATERIALS • METHODS • APPLICATIONS • LITERATURE

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DETROIT

Vol. 14 May, 1949 No. 5

SMALL ELECTRIC MOTORS

Suitable for powering fans, blowers, small pumps and similar portable equipment, type KSP71 unit-bearing shaded-pole fractional horsepower motors are available in capacities from 1/40 to 1/15-horsepower, for operation on 115 or 230 volts at 50-60 cycles and for either clockwise or counterclockwise rotation. Each of three models in line can be used for horizontal or vertical shaft-up operation, and they can be obtained in variety of mountings including shaft-end, opposite shaft-end and resilient-base types. Motors can be band-mounted also because space of 1-3/32 inches is provided for this type of mounting. Made by **General Electric Co.**, Fractional Horsepower Motor Div., Schenectady 5, N. Y.

▲ Mention Item **NED-3050** when writing ▲

PROCESS DUST COLLECTOR

Collection and control of dust generated in manufacturing and process operations is performed efficiently by this redesigned type N Roto-Clone hydrostatic precipitator. It cleans air by combined action of centrifugal force and thorough intermixing of water and dust-laden air. Water is re-used, and no recirculation pumps or spray nozzles are employed. Having capacities through 48,000 cubic feet of air per minute, this design 2 unit maintains lower pressure drop with same cleaning efficiency and water recirculation rate as previous model, and it can be operated at 50 to 120 per cent of its nominal rating without affecting its collecting efficiency. All sizes are available with manual clean-out, sludge ejector or hopper bottom arrangement. Made by **American Air Filter Co.**, 262 Central Ave., Louisville 8, Ky.

▲ Mention Item **NED-3051** when writing ▲

COLOR FILLING MACHINE

Capable of placing color enamel filling into stamped, embossed, molded, cast and die-cast parts, No. 301 Acro-printer color filling machine eliminates hand filling. Enamel applicator built into machine allows enamel to be applied to surfaces of various contours in addition to flat. Enamel is carried from platen, which is shaped to match surface being filled, by means of molded synthetic rubber die that is molded to match design required. Allowance for enamel flow as it is applied is provided in die, and depth of application adjustment of machine assures uniform results. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

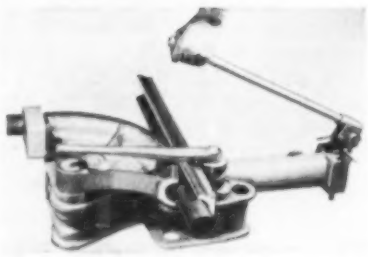
▲ Mention Item **NED-3052** when writing ▲

ARBOR PRESS

Weighing only 60 pounds and small in size, 8-ton hydraulic arbor press intended for use with International hydraulic power unit is completely portable and requires little bench space. It can be moved to any location for removing gears, pushing out piston pin bushings, straightening generator and starter armatures and similar uses. Included with press is set of six ¼ to ¾-inch diameter alloy steel pin punches, adjustable V-block straightening plate in metal case and standard rotating turret. Price is $89. Made by **International Tool Corp.**, Dept. NED, P.O. Box 697, Chula Vista, Calif.

▲ Mention Item **NED-3053** when writing ▲

PORTABLE TUBING BENDER



Although primarily designed for thin walled steel conduit, this portable tubing bender will also bend thin walled tubing made of hard copper, stainless steel and other similar materials. Tube bender is simple to assemble since it consists of but two parts that fasten together with U-key. Changeovers from one size of tubing to another can be made quickly with lightweight aluminum formers. Machine will handle all standard sizes of tubing from 1 to 2 inches in diameter; special 2-inch former is available also for making parallel bends. Made by **Tal Bender, Inc.**, 417 N. Water St., Milwaukee, Wis.

▲ Mention Item **NED-3054** when writing ▲

FOUNTAIN WASHER BRUSHES

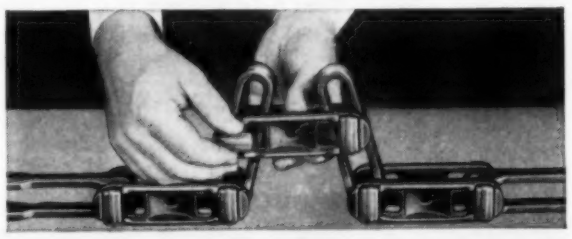
Washing of trucks, trains, walls, windows and machinery is accomplished easily by means of these fountain washer brushes. Oblong brush for large surfaces consists of four rows of heavy nylon and stiff black horsetail hair with 3-inch trim, staple-set in hard rubber block 10 inches long and 2 inches wide. Round brush for washing smaller surfaces is of same materials and has 5-inch diameter block, 3-inch trim and 7-inch cleaning surface. Both brushes have eight holes for even water flow. Rubber bumpers cover sides and edges to give protection to finishes.

Handle unit includes aluminum nozzle which is bolted to brush head, 5-foot aluminum handle and aluminum shutoff valve with female hose connection that fits any standard water hose. Overall length is 64 inches. Oblong style weighs 36 ounces, and round style weighs 34 ounces. Shutoff valve will adjust rate of water flow. Made by **Fuller Brush Co.**, Industrial Div., Dept. NED, 3530 Main St., Hartford 2, Conn.

▲ Mention Item **NED-3055** when writing ▲

CONVEYOR CHAIN

Capable of being assembled or disassembled without tools, X-458 improved type Keystone rivetless 4-inch pitch conveyor chain can be disconnected at any point.



Side link employs redesigned web which substantially stiffens it and permits increased strength without increased weight. All parts of chain are drop forged from high carbon steel having tensile strength ranging from 85,000 to 95,000 pounds per square inch. When in position, chain has ultimate strength of 48,000 pounds per square inch. It is fully interchangeable with standard No. 458 chain. Made by **Jervis B. Webb Co.**, 8949 Alpine Ave., Detroit 4, Mich.

▲ Mention Item **NED-3056** when writing ▲

Read Carefully
CHECK AND PASS ON

✓	NAME AND TITLE	SEE ITEM NO.

MAGNETIC TRAP

For permanent installation in sanitary or standard piping, Alnico magnetic trap prevents iron contamination of foods and liquids and damage to pumps, screens, fillers and other equipment. Magnet is raised inside trap body to meet actual material flow and has large surface area to insure maximum iron removal. Controlled flux pattern concentrates lines of magnetic force inside trap body. Covered by polished removable stainless steel plate, magnetic poles do not contact liquid. Assembly is sealed with white dairy stock neoprene gasket. Trap body is designed to minimize turbulence and restriction to flow, is highly polished inside and out, and can be cleaned by removal of wing nuts.

Trap is available in No. 316 stainless steel or Waukesha metal, with threads for installation in any sanitary pipe line. It is also supplied in SAE No. 40 bronze with internal pipe threads for industrial applications. Unit can be furnished in sizes to fit 1-inch through 4-inch lines. Made by **Dings Magnetic Separator Co.**, 4758 W. Electric Ave., Milwaukee 14, Wis.

▲ Mention Item **NED-3057** when writing ▲

Do YOU Know

■ ADVANTAGES of basic open hearth and acid Bessemer processes of making steel are combined in Turbo-Hearth method. It permits manufacture of steel of open hearth quality, low in phosphorus and nitrogen, by directing jets of air across surface of white-hot liquid pig iron. Steel is made in partly closed side-blown vessel, lined with refractory similar to that used in Thomas basic Bessemer process. Developed in conjunction with Jones & Laughlin Steel Corp. by Carnegie-Illinois Steel Corp., 429 Fourth Ave., Pittsburgh 19, Pa.

▲ Mention Item **NED-3058** when writing ▲

■ ADDITION of one part of G-E 81069 colorless silicone liquid to 10,000 parts of certain coating materials serves to eliminate separation of pigments and gives uniform painted surface. Because it is most effective when mixed with paint ingredients at time of manufacture, it is recommended chiefly to paint producers. Made by General Electric Co., Chemical Dept., 1 Plastics Ave., Pittsfield, Mass.

▲ Mention Item **NED-3059** when writing ▲

■ COMPLETE guide to shipping facilities offered by Gulf ports and all-rail ports located on Rio Grande border is furnished by 52-page illustrated "Handbook of Ports". Detailed information regarding dock and wharf facilities, depth of water, rail lines and facilities for handling special cargoes is presented along with data on foreign shipping procedure. Available free from Missouri Pacific Lines, Rm. 1400 Missouri Pacific Bldg., St. Louis 3, Mo.

▲ Mention Item **NED-3060** when writing ▲

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WAB Controls are a proven means of governing a wide variety of functions, from a simple "push-pull" operation to precise positioning. Successfully serving on production machines, hoists, cranes, excavating equipment, oil drilling rigs, boats, etc. Illustrations show only a few of the many devices available. Ask for Bulletin 9481-1 for full details.

Westinghouse Air Brake Co.

Industrial Division: Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

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WHEREVER VIBRATION IS A FACTOR

PRODUCTION TESTING
MAINTENANCE CHECKS
MOTOR TROUBLES
NOISE ABATEMENT
SHOCK MOUNTS

SONOPROBE

is simple, accurate, and economical

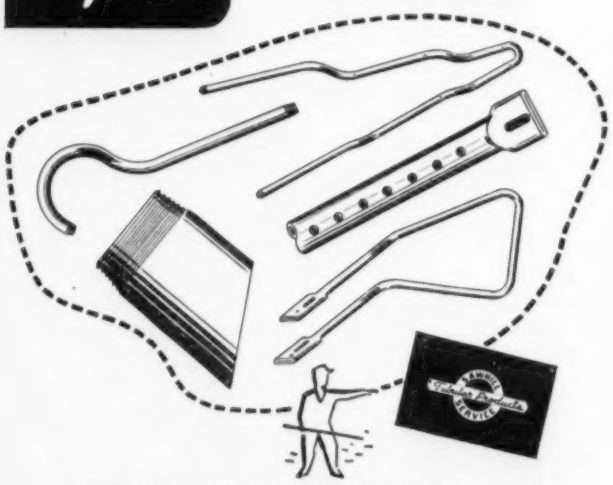
A 3-stage electronic amplifier whose input is a contact microphone *unaffected by air-borne noises.* Permits quick, easy location, isolation, identification and measurement of any vibration. Invaluable in the testing and inspection of bearings, gears, assemblies; maintenance checks of machine tools, motors, automotive engines; many other uses. *No special training required to operate.*

Bench model (illustrated) operates on 60-cycle, 115-volt a.c.; battery-operated portable model (weight 6½ lbs.) also available. For full information write

AIRCRAFT ELECTRONICS ASSOCIATES
Dept. A 1031 New Britain Avenue
HARTFORD 10, CONN.

▲ Mention Item NED-3062 when writing ▲

Pipe PRE-FABRICATED
TO YOUR SPECIFICATIONS
READY FOR ASSEMBLY



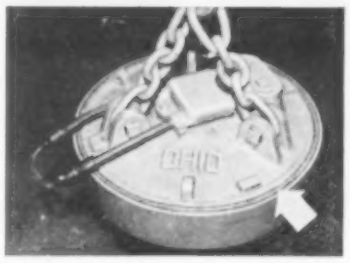
● The answer to your steel pipe problems—complete facilities for straight or angle cutting, threading, bending, flattening, drilling—a full range of sizes available from a dependable source.

Pipe As You Want It—When You Want It
Prompt attention to your inquiry or order

THE SAWHILL MANUFACTURING COMPANY
SHARON, PENNSYLVANIA

▲ Mention Item NED-3063 when writing ▲

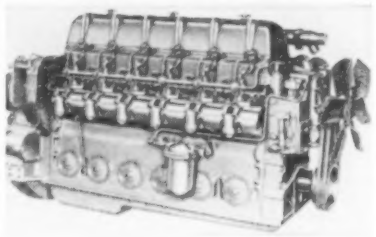
LIGHT LIFTING MAGNET



Weighing approximately 20 per cent less than heavy-duty types, this Protecto-Weld magnet is designed for intermittent service on mobile type cranes. It is available in sizes with 39 and 45-inch diameters, both of which have weld on top where it cannot be dented. Made by **Ohio Electric Mfg. Co.,** 5932 Maurice Ave., Cleveland, O.

▲ Mention Item NED-3064 when writing ▲

TWO-CYCLE DIESEL ENGINE

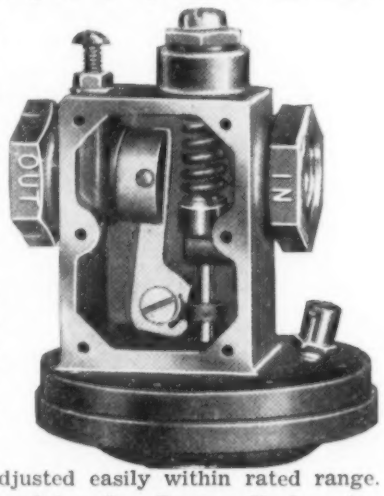


Having many applications in road building, construction and industrial fields, 3 and 6-cylinder P&H power units are lightweight 2-cycle solid injection supercharged diesel engines. All engine parts are interchangeable from one model to another with exception of crankshaft, camshaft and crankcase which are necessarily different because of different number of cylinders. Each cylinder is independent fully water jacketed unit so that it can be serviced as separate component. Engines have bore of 4½ inches, stroke of 5½ inches and displacement of 87½ cubic inches per cylinder. Model 387-C crankshaft has four main bearings and model 687-C has seven main bearings. All pins and journals are drilled for continuous pressure lubrication. Made by **Harnischfeger Corp.,** Diesel Engine Div., 110 Lake St., Port Washington, Wis.

▲ Mention Item NED-3065 when writing ▲

GAS-FIRED BOILER CONTROL

Automatic control of steam pressure in gas-fired boilers or steam generators is provided by this type A-21 regulator which is designed to operate on maximum gas pressure of 1 pound per square inch. Adjustable steam pressure ranges are 1 to 15, 15 to 100 and 100 to 160 pounds per square inch. Compound lever action and corrosion resistant metal construction assure dependable, sensitive and accurate operation. Adjustable by-pass permits sufficient gas to flow to burner to prevent backfire. Actuating pressure is adjusted easily within rated range. Made by **Superior Regulator Co.,** Drawer X, Los Angeles 41, Calif.



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WHITE

NEW TYPE RIVETED MAGNESIUM LADDERS

SPECIAL "COMFORT" RUNGS
NO SKIP-RUNG

Extensions up to 40 feet; Single Taper from 8 to 20 feet;

WHITE MAGNESIUM LADDERS weigh about half as much as wooden ladders . . . hold greater loads.

SAVE LABOR
One man can sometimes handle the job of two.

REDUCE ACCIDENTS
Rigidly tested—can't splinter or break suddenly.

WEAR LONGER
Weather-proof, warp-proof, rust-proof—outwear any number of ordinary ladders

Write today for prices and discounts

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Palmer, Massachusetts

▲ Mention Item NED-3067 when writing ▲

TRIONIC GAUGE FOR RUBBER HARDNESS

Measures hardness of rubber products, sheet rubber and rubber-like substances. Rubber already installed, such as rollers, platens, etc., can be measured. Characteristics such as resilience, durability, uniformity, tensile strength, abrasion resistance, etc., are reflected by the hardness of rubber or other elastomers. The Gauge measures the Shore hardness of all rubbers and rubber-like substances. Accuracy is well within rubber manufacturing tolerances. Engineers, Physicists, Manufacturers, buyers and sellers of rubber products find this gauge indispensable. Fits in pocket for convenience. Order your gauge today!

NET PRICE $7.85

Postage Prepaid anywhere in U. S. A. if check or money order accompanies order.

A Neoprene Test Block included with each instrument.

CLARKSTAN CORPORATION
11927 W. Pico Blvd.
Los Angeles 34, Cal.

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New **BROWNING FHP BELT**

FOR SMOOTH VIBRATIONLESS POWER

★ NEW DESIGN
★ NEW PERFORMANCE
★ LONG LIFE

WRITE FOR CATALOG V-147

BROWNING MANUFACTURING COMPANY
INCORPORATED
MAYSVILLE, KENTUCKY, U. S. A.

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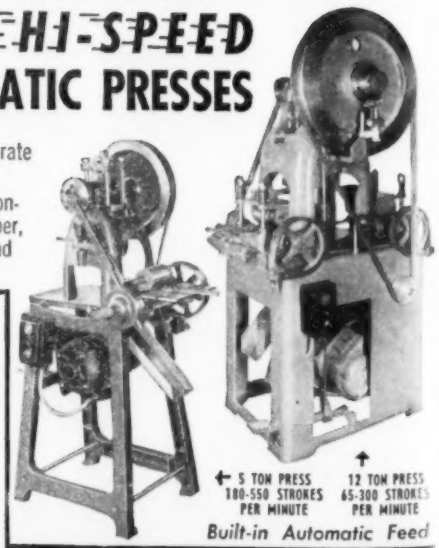
Speed and Efficiency Equal - MORE PRODUCTION! - MORE PROFIT!! - LOW COST!!!

WITH PRECISION BUILT

DIEBEL HI-SPEED AUTOMATIC PRESSES

- Economical to Operate
- Low Initial Cost
- For Ferrous and Non-Ferrous Metals, Fiber, Plastics, Rubber and Paper.



← 5 TON PRESS 180-550 STROKES PER MINUTE
12 TON PRESS 65-300 STROKES PER MINUTE →
Built-in Automatic Feed

COMPLETE INFORMATION
Mailed on Request
Production Facts, Photographs of Compound and Progressive Dies, Capacities, Ranges, Sizes, Dimensions, Full Specifications.

DI MACHINE CORP.
2701 IRVING PARK ROAD, CHICAGO 18, ILL.

▲ Mention Item NED-3070 when writing ▲

Let these 1½ and 2 h. p.
RED SEAL ENGINES
BUILD GOODWILL FOR YOU, TOO

Compactness, balance, and extremely low center of gravity adapt these engines to an unusually broad range of applications, a range widened further by the fact that identical performance characteristics are available in models of differing profile and shape.

Torque substantially higher than in other engines of their ratings assures ample reserve power for suddenly-applied loads. These Red Seals cost less to run, and run longer without service, because their full rated horsepower is developed at moderate speed.

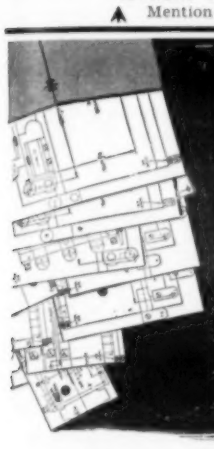
Let these products of Continental Motors, engine specialists for nearly half a century, help sell your product — help KEEP it sold. Installation drawings and full information on request.

Where height is critical, specify
AA-7
(1½ H.P. at 2600 r.p.m.)
or
AA-7B
(2 H.P. at 3200 r.p.m.)

Where horizontal dimensions are critical, specify
AU-7
(1½ H.P. at 2600 r.p.m.)
or
AU-7B
(2 H.P. at 3200 r.p.m.)

Heavy-duty 6-to-1 reduction gear mounting in any of 4 positions, also available.

Continental Motors Corporation
620 FORD BUILDING, DETROIT 26, MICHIGAN
Mention Item NED-3071 when writing



FREE DESIGN AIDS
SHORT CUT MOTOR CONTROL LAYOUTS
ARROW-HART TEMPLATES

For designers, engineers, production and maintenance men and for management. Actual-size templates of Arrow-Hart Starters, Contactors, Relays, Type "N" Disconnect Switches, Terminal Blocks and Transformers — to help you lay out your motor control and machine design plans. 47 individual templates in one, handy file-size kit, free upon request.

Here's a new idea that will save man-hours, eliminate guesswork and expensive planning and drawing. Arrow-Hart Templates — actual-size templates of Arrow-Hart Motor Controls printed in sharp, black outline on durable bristol board. Templates offer a practical, accurate means of visualizing space arrangements and limitations; are ideal for roughing-out and for tracing.

CONTROLS and APPARATUS FOR *Outstanding* PERFORMANCE

FREE KIT OF TEMPLATES WILL BE SENT UPON REQUEST

ARROW-HART
THE ARROW-HART & HEGEMAN ELECTRIC COMPANY
HARTFORD 6, CONN., U. S. A.
Mention Item NED-3072 when writing

TIMECUTTER-the NEW
Lapping Compound that cuts Hardened Steel twice as fast as ordinary compounds.....

CUTS twice as fast

TIMECUTTER is compounded with a new formula that speeds up your lapping-in process three ways.

This pre-mixed, ready-to-use compound cuts twice as fast . . . clings to the points of contact and really grinds to a fine finish . . . then, the silicon carbide washes off in a sludge, quickly and easily.

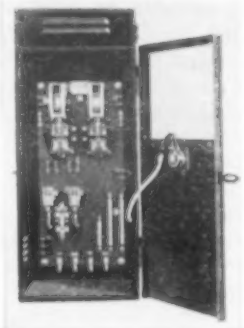
CLINGS to points of contact

Write for full information about three-way improved TIMECUTTER
TIMESAVER PRODUCTS CO.
546 W. Washington Blvd.
CHICAGO 6, ILLINOIS

WASHES OFF in a sludge

Mention Item NED-3073 when writing

LIFTING MAGNET CONTROLLER



Automatic discharge type DLM-207-A Magnet Controller is designed for use with large circular lifting magnets and heavy-duty rectangular magnets. Discharge feature is adjustable to suit size of magnet, material handled and voltage variations up to 10 per cent. Adjusting dial permits operator to control opening of reverse-current contactor for clean release of load. Small lift-drop master switch, for mounting at operator's station, controls application of power and de-energization of magnet. Controller is automatically disconnected from line after master switch is moved to 'drop' position, and load is discharged. Fuses on controller panel protect wiring between controller and master switch. Made by **Electric Controller & Mfg. Co.**, 2694 East 79th St., Cleveland 4, Ohio.

Mention Item NED-3074 when writing

POWER CART

Powered by 7-horsepower four-cycle gasoline engine through chain drive, improved model power cart is capable of climbing 20-per cent grade with 2000-pound load. Forward and reverse motion as well as turning through 180-degree arc on 4-foot radius are controlled through tiller steering mechanism. Carrying tray has basic capacity of 9 cubic feet of concrete and with side boards 12 cubic feet. Cart is constructed of electric welded steel plate and tube and will side-dump easily on standard 5-foot runways. Made by **Gar-Bro Mfg. Co.**, 2419 E. Sixteenth St., Los Angeles 21, Calif.

Mention Item NED-3075 when writing

GUN TYPE SAW

Featuring adjustable cutting stroke up to 2 inches and variable-speed blade, Transa reciprocal gun type saw will cut through any material ranging from rubber

to stainless steel. By addition of this attachment, any ¼-inch electric or pneumatic drill or flexible shaft can be used as a saw. Special guides for blade widths from ½ to 1-inch eliminate whipping or snapping of blade and can be used as sights in following line. Tool is equipped also with handle which can be used to swivel blade when cutting at various angles. Unit will swivel 360-degrees and lock in any cutting tangent. Made by **Transa, Inc.**, Dept. NED, Suite 440-445 Gateway Bank Bldg., Minneapolis 1, Minn.

Mention Item NED-3076 when writing

DON'T BLAME THE PAINT
OSPHO
Is the Answer to Painting RUSTED SURFACES

An application of OSPHO (Phosphate-Chromate Primer) applied directly over rusted metal STOPS RUST ACTION AND PRIMES METAL FOR PAINT!!!

You don't have to remove the rust—just apply OSPHO—let dry and apply paint. OSPHO saves cost of removing rust—paint jobs last twice as long, and it is inexpensive.

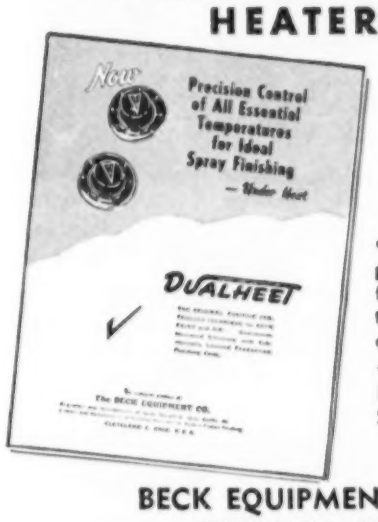
Place a trial order today. Recommended by paint manufacturers.

1 Gallon $3.00
10 Gallon Kegs . . $2.80
50 Gallon Barrels . $2.60
F. O. B. Cleveland

RUSTICIDE PRODUCTS COMPANY
3127 Perkins Ave. • Cleveland 14, Ohio

OSPHO FIRST MAKES PAINT JOBS LAST
Mention Item NED-3077 when writing

Improve PRESENT METHODS of SPRAY FINISHING . . . *Under Heat*
DUAL HEET
PAINT and AIR HEATER



SEND FOR THIS BULLETIN . . .

• Learn how this improved method of finish is making material savings in costs and time for industry.

• Also learn about BECK FINISHING SHOP NECESSITIES.

DEPT.

BECK EQUIPMENT CO.
CLEVELAND 2, OHIO
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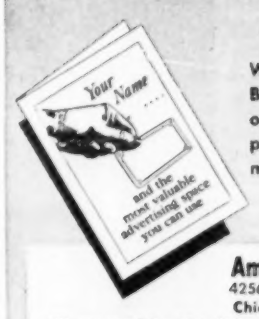
the most valuable advertising space you can use!

are you making the most of it?

A few square inches become a most important factor in your sales . . . a constant reminder of your name . . . giving unequaled readership by catching the eye of every person who comes near your product. Continuously selling, making good impressions, long after the actual sale . . . long after the product has been shipped.

American Name Plate can give you that type of identification and advertising — design it, create it and style it distinctively for you, to suit your product. Well made with sharpness and clarity — attractive and enduring — with rich colors — a *lasting* mark of distinction.



WRITE TODAY for this FREE BOOKLET giving complete details on name plates, instruction plates, dials, scales and instrument panels.

American Name Plate & Mfg. Co.
4256 W. Arthington St.
Chicago 24, Ill.

Please send booklet, "The Most Valuable Advertising Space You Can Use," at once.

Company _____ Individual _____
Address _____
City _____ Zone ____ State _____

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WHEN YOU NEED STEEL CALL RYERSON

Contact Ryerson for prompt shipment of dependable steel products. Because of great demand, all sizes are not always in stock; but you will find that we can usually take care of your requirements.

PRINCIPAL PRODUCTS

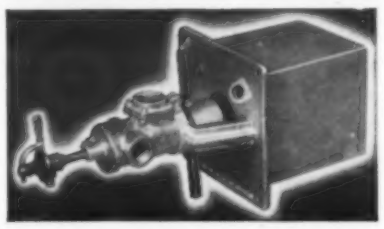
Bars • Structurals • Plates • Sheets • Tubing • Allegheny Stainless • Alloy Steel • Safety Floor Plate • Babbitt • Solder Metal Working Tools & Machinery, etc.

JOSEPH T. RYERSON & SON, INC.

Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

Mention Item NED-3080 when writing

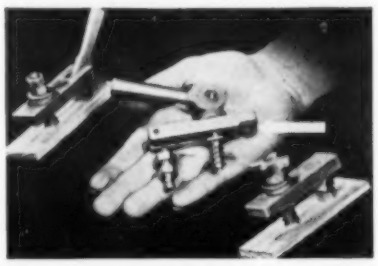
DUAL-FUEL BURNER



Capable of burning light or heavy oil as well as gas of any British thermal unit content, series 225 dual-fuel burner is combination unit designed for such applications as heat treating, forging and smelting. Changeover from one fuel to other can be made without changing piping. It will burn natural gas at atmospheric pressure under single valve control, and easily adjusted sleeve type shutter allows for open or closed firing as desired. Burner components can be removed for cleaning by disconnecting oil line and removing two small bolts. Made by **North American Mfg. Co.,** 4453 E. 71st St., Cleveland 5, O.

Mention Item NED-3083 when writing

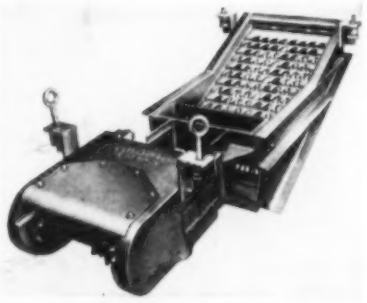
MIDGET-TYPE CLAMPS



Designed for locating and holding small parts, series No. 250 midget-type clamps can be used as component parts of assembly fixtures as well as in drilling, milling, tapping and similar types of machining jobs. Clamps can be supplied with either soft bronze or heat treated hard-chrome steel toe. Soft toe clamps are particularly useful for gripping finished or ground surfaces while secondary operations are performed. They can be obtained in three models, each with different clamping arrangement: heel cam, center cam and hand-knob, designated as models CHAC-250, CCA-250 and HCA-250, respectively. Made by **Noble & Stanton, Inc.,** 724 Broadway, Bedford, O.

Mention Item NED-3084 when writing

VIBRATING SCREEN



Rough sizing can be effected efficiently and economically by means of vibrating screens made up with stepped punched plates having tapered elongated openings sized to suit material to be handled. Single or multiple deck screen plates can be furnished as desired. Screen area is activated by Vibra-Flow vibrating motor which provides variable control of material flow. This makes unit both vibrating screen and rheostat-controlled vibratory feeder to increase efficiency and capacity of crushers and fine grinders and to prevent damage to belt conveyors by allowing fines to cushion lumps. Made by **Syntron Co.,** 405 Lexington Ave., Homer City, Pa.

Mention Item NED-3085 when writing

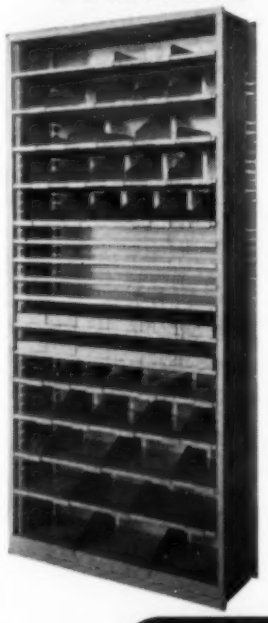
SAFE-LINE WIRE ROPE CLAMPS

Write for details of this—the only PERFECTED wire rope clamp on the market. Millions used by Manufacturers, the Armed Forces and Industries.

NATIONAL PRODUCTION COMPANY
4557 ST. JEAN AVENUE • DETROIT 13, MICHIGAN

Mention Item NED-3087 when writing

FOR ANY INDUSTRY FLEXIBLE PARTS BINS



The FLEX-I-BIN is versatile enough to handle any storage problem. Instant arrangement of shelves, dividers and trays to suit your needs. No bolts, screws or clips . . . dividers snap on anyplace . . shelves slide in place on 1½" centers. All-welded heavy steel construction, smooth edges, baked enamel finish.

HANDLE MORE PARTS IN LESS SPACE . . . FASTER AND AT LOWER COST WITH FLEX-I-BIN!

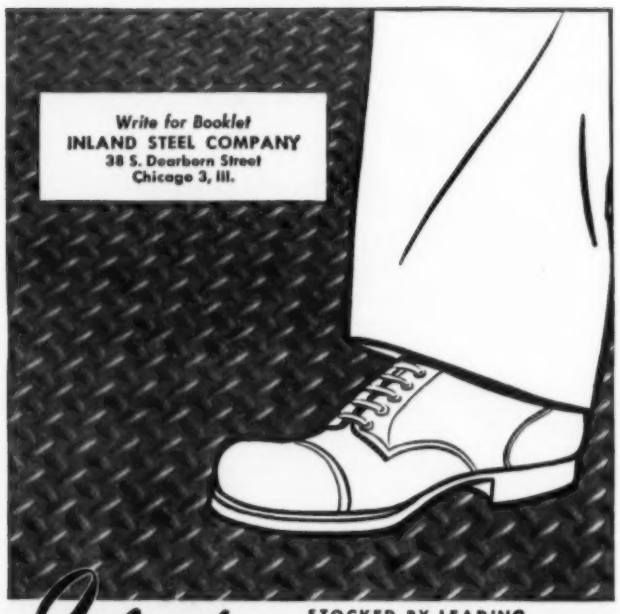
Write or wire for complete specifications.

BORROUGHS

MANUFACTURING COMPANY
3030 N. Burdick St., Kalamazoo, Mich.

Mention Item NED-3088 when writing

Step Out...Safely



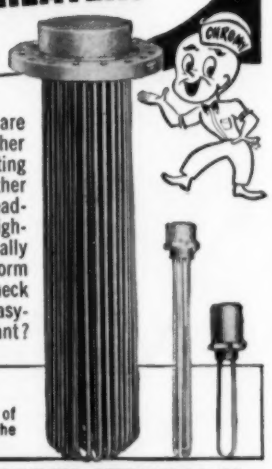
Inland 4-WAY SAFETY PLATE

STOCKED BY LEADING STEEL WAREHOUSES

Reg. U. S. Pat. Off.

Mention Item NED-3081 when writing

HEAT GASES and LIQUIDS Efficiently and Economically with CHROMALOX Heavy-Duty IMMERSION HEATERS



CHROMALOX Electric Immersion Heaters are suitable for heating compressed air and other gases; for super-heating steam; for heating liquids and Dowtherm, Arochlor and other heat-transfer mediums. Heaters can be readily applied to high-temperature and high-pressure operations; when thermostatically controlled, accurate temperature and uniform product controls are possible. Why not check the advantages you can gain by using easy-to-install CHROMALOX Units in your plant?

Get the Booklet
"A to Z with ELECTRIC HEAT"
It contains actual application photographs of electric heaters at work in plants throughout the country. No obligation.

EDWIN L. WIEGAND CO., 7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.

See other advertisement on page 65

CHROMALOX 18-87

ELECTRIC HEAT FOR MODERN INDUSTRY

Mention Item NED-3082 when writing

Conveyors are part of the PROCESS

In this cabinet plant of a radio manufacturer Logan Conveyors supply unfinished consoles timed to the production flow of the finishing room.

Thus conveyorized, the plant has eliminated costly, time consuming, "manhandling" . . . can market the finished product at lower consumer cost.

As we enter a more competitive era — it may be profitable for you to consider the use of conveyors. Literature sent on request, write today, no obligation.

Logan Conveyors

LOGAN CO., 215 CABEL ST., LOUISVILLE, KY.

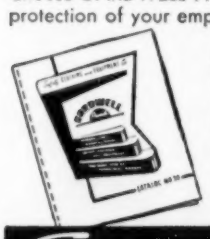
Mention Item NED-3086 when writing

"Tool-up" FOR SAFETY WITH GARDWELL Products

A small investment in personal protection against industrial hazards will pay big dividends in fewer accidents, less lost time, lower compensation costs, and greater employee production.

This is our 25th Year of manufacturing GARDWELL Safety Clothing. The line is complete for head to foot protection—expertly designed, properly made with double sewn seams—from all popular materials.

Choose GARDWELL PRODUCTS for sure protection of your employees.



86-page Catalog of Safety Clothing and Equipment sent on request.

Write for one today.

Safety CLOTHING AND EQUIPMENT Co.
7016 EUCLID AVENUE CLEVELAND 3, OHIO
PHONE ENDICOTT 1722

Mention Item NED-3089 when writing

ACCESSORY DIVIDENDS DECLARED

More and more fabricators are getting welding dividends by taking pains with selection of accessories. Speedier, lower cost, safer and improved welding are assured when such items as helmets, shields, holders, connectors, cleaning tools and protective clothing are carefully selected. More and more fabricators — sold on M & T electrode and arc welder performance — are specifying the M & T line of "accessories to the perfect weld." Write for descriptive literature.

METAL & THERMIT CORPORATION
120 Broadway • New York 5, N. Y.

CHICAGO CINCINNATI CLEVELAND HOUSTON MINNEAPOLIS
NEWARK PHILADELPHIA PITTSBURGH SO. SAN FRANCISCO TORONTO

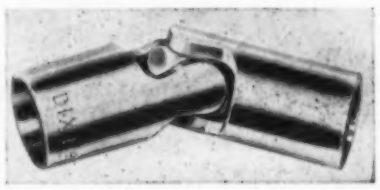
▲ Mention Item NED-3090 when writing ▲

CIRCUIT BREAKER PLUG

Affording protection from overloading, stalling or rotor locking on any machine powered by fractional horsepower motor, Hopax circuit breaker plug is available in range of ratings up to 10 amperes. Plug rated for capacity of equipment it serves should be used. Thus, it operates only when conditions become dangerous for particular appliance on which it is installed. Resetting is accomplished by removing plug from receptacle and raising and lowering lever between the prongs. Special types for applications requiring high current load for specified time can be furnished. Made by **Hopax Electric, Inc.,** 547 Greenwich St., New York 13, N. Y.

▲ Mention Item NED-3093 when writing ▲

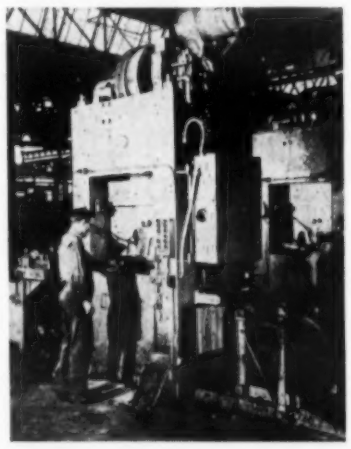
UNIVERSAL JOINT



All operating surfaces of Dix universal joints are ground to accuracy such that pins can not bind, backlash or inplay. Joints are concentric within 0.0005-inch. Since all rivets are ground flush with body, joints can operate inside tubing or in close quarters. They are undercut to obtain greatest operating angle without sacrificing strength. Available in 14 standard sizes from ⅜ to 4-inch hub diameter, joints are constructed of alloy steel which is hardened and heat treated to Rockwell 38 C. On order, they can be Magnaflux tested and cadmium plated, and large sizes can be equipped with Zerk fittings. Made by **Lovejoy Flexible Coupling Co.,** 4958 W. Lake St., Chicago 44, Ill.

▲ Mention Item NED-3094 when writing ▲

MECHANICAL PRESSES



Designed for stamping operations employing standard, progressive or multiple dies, line of medium to high tonnage mechanical presses employs heavy plate structure through steel mass to obtain accurate stampings and long die life at high operating speeds. Various sizes and types include high production units having speeds up to 250 strokes per minute with capacities from 50 to 800 tons. Presses can be obtained with direct nongeared crank-drive; single reduction gear, eccentric drive; and double reduction gear, eccentric drive. Features include welded steel plate construction, air-operated fan-cooled friction clutch, fan-cooled safety brake and efficient oiling system which delivers filtered oil to each part requiring lubrication. Made by **Danly Machine Specialties, Inc.,** Dept. 51, 2100 S. 52nd Ave., Chicago 50, Ill.

▲ Mention Item NED-3095 when writing ▲

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS 540 W. VERNON AVENUE LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

▲ Mention Item NED-3097 when writing ▲

New GENERAL FILTER

for Hydraulic and Lubricating Oils

NO CARTRIDGES TO REPLACE

There are no expensive cartridges to throw away or stock. Entire unit is cleanable. First cost is only cost.

EASY TO CLEAN

Just remove one nut and all spacers and screens slide off. Wash in suitable solvent and replace. It's as simple as that.

FILTRATION TO SUIT EVERY APPLICATION

This Model 1300 GENERAL FILTER can be made to filter solids from .040 inch to 5 microns by varying the mesh of the filtering screens. Comes in two standard lengths, 8 inches and 4 inches, but can be made any length to provide capacity between 5 and 50 gallons per minute.

Write! for prices and specifications. Describe your application.

GENERAL FILTERS, Inc.
12890 WESTWOOD — DETROIT 23, MICH.

▲ Mention Item NED-3091 when writing ▲

6-Point Recording

ON A SINGLE ROUND CHART

THE NEW FOXBORO MULTI-RECORD DYNALOG* gives up to 6 clean-cut records in as many different colors on one convenient round chart . . . all, with *only one measuring system.* An ingenious, foolproof, record-switching arrangement provides recordings in sequence every 6 seconds. Colors positively will not run together.

The unique Multi-Record Dynalog is available for measuring several temperatures or other process variables. Send for Bulletin 428 and see how this electronic instrument provides new, money-saving advantages. **The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U. S. A.**

*Reg.U.S.Pat.Off.

Another **FOXBORO** *FIRST*

▲ Mention Item NED-3098 when writing ▲

Security

THE DEPENDABLE
LOCKNUT
WORTHY OF ITS NAME

Positive, dependable, automatic locking in any position on bolt. Does not require bolt tension. Stays put exactly where you wrench it, regardless of vibration violent enough to destroy the bolt itself.

Government test reports show 30 successive applications and removals with no appreciable wear on bolt or nut and no reduction in locking power.

Made in complete size range from ⅜" thru 2" N.C. or N.F. threads.

Standard equipment on all types of railroad equipment including diesel locomotives, automotive farm implements, road building machinery, conveying equipment, mining equipment and maintenance pumps and compressors, oil well and refining equipment, machine tools and presses.

SECURITY LOCKNUT CORPORATION
1815 N. Long Avenue, Chicago 39, Illinois

▲ Mention Item NED-3092 when writing ▲

Remote Controls...

a Problem?

Take advantage of our free engineering service!

In our thirty years of manufacturing remote controls, we've met and solved many unusual problems. Installations have varied from complicated pattern-setting controls for textile machines to simple push-pull controls for power lawn mowers. In a substantial number of cases, a thorough understanding of the problem resulted in an improved control installation at a lower cost. Perhaps your product offers a remote control problem that we can tackle.

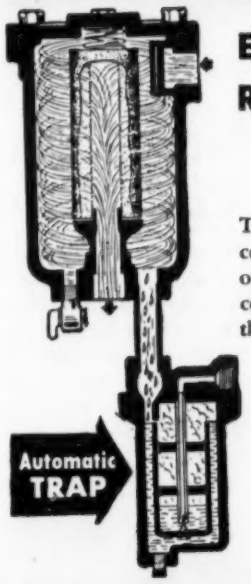
Why not let our design and engineering experts go to work on your control requirements? We would be pleased to offer you the benefit of our experience without obligation. Just write us for details.

Flexible and rigid remote controls
Arens controls are noted for their long, trouble-free operation even under the most difficult operating conditions. They are low cost, easy to install, smooth working, and require virtually no maintenance. Whatever your remote control requirements, are, considering Arens first will often save you money.

ARENS CONTROLS, INC.
2257 S. Halsted St., Chicago 8, Ill.

▲ Mention Item NED-3096 when writing ▲

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.
227 E. Park Drive • Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ Mention Item NED-3099 when writing ▲

Listed in our publication "Applications of Molybdenum Cast Irons" are hundreds of proved compositions of high-grade irons suitable for various duties and applications, each alphabetically arranged. Quickly find just the information you require, including tensile and other mechanical properties and helpful comments.

For busy engineers, designers or foundrymen, this work is a valuable guide to the best in modern alloy irons.

This booklet sent to you FREE

Climax Molybdenum Company
500 Fifth Avenue · New York City

F4

▲ Mention Item NED-3102 when writing ▲

built-in DEPENDABILITY

Model 3802
Motor-in-wheel A.C. blower, 100 C.F.M.

Redmond

MICROMOTOR BLOWER UNITS

Model 3744 A.C.
100 C.F.M.

Here's the solution to your small-blower problems . . . choose a Redmond Micromotor Blower Unit. Compact, sturdy, and thoroughly dependable, these units are built to give long-lasting satisfaction. Precision balancing of all moving parts minimizes vibration, assures quiet operation.

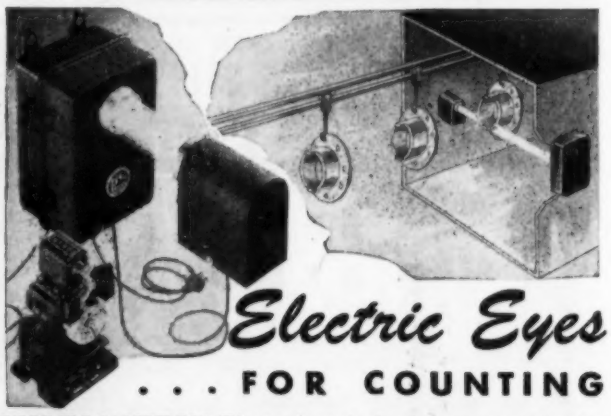
Each unit is powered with a Redmond Micromotor, famous for its ability to perform smoothly and quietly over thousands of hours of continuous duty.

Model 3901 A.C.
220 C.F.M.

A.C. blowers available in capacities from 50 C.F.M. to 220 C.F.M.; D.C. blowers up to 125 C.F.M. Single or double outlet. Outlet mounting flanges and inlet screens also available. Write for catalog.

Redmond COMPANY, INC.
OWOSSO, MICHIGAN
Offices in New York, Chicago, Dayton, Los Angeles, Dallas
EXPANDED FACILITIES · PROMPT DELIVERIES · SERVICE BEFORE AND BEYOND THE SALE

▲ Mention Item NED-3103 when writing ▲



Electric Eyes
. . . FOR COUNTING

PHOTOSWITCH Photoelectric Counters provide the *only* answer to many counting problems. Used when output cannot be counted directly through operation of the machine itself — where temperature is too high for actual contact — where objects are too light to trip a mechanical counter — are of irregular shape, or freshly painted, and in general for counting on all types of conveyor systems. PHOTOSWITCH Electric Eye Counters are universal — not limited to one specific use. They are fast, unfailingly accurate — and easy to install.

WRITE FOR COMPLETE INFORMATION

Bulletin PA432 NED

CA-3

PHOTOSWITCH
INCORPORATED

PHOTOELECTRIC & ELECTRONIC CONTROLS FOR EVERY INDUSTRIAL PURPOSE
CAMBRIDGE, MASS. · *District Offices* IN ALL PRINCIPAL CITIES

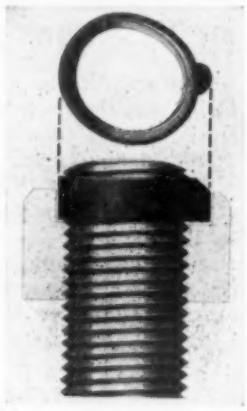
▲ Mention Item NED-3104 when writing ▲

HYDRAULIC SERVICE VALVE

Operated by Limitorque electric motor connected to threaded reach rod that moves vane very slowly to prevent water hammer, R-S 54-inch 50-pound iron valve is suitable for hydraulic service and controlling flow of condenser water. It can be adjusted to effect closure in from 1 to 8 minutes. Speed of closure is dependent upon number of threads cut per inch on reach rod. Valve can be fitted with renewable rubber spool for positive shutoff on up to 80 pounds per square inch air and commercially tight shutoff on up to 100 pounds per square inch water pressure. This valve is available also in larger sizes for higher pressures and in materials other than iron. Made by **R-S Products Corp.**, Wayne Junction, Philadelphia 44, Pa.

▲ Mention Item NED-3105 when writing ▲

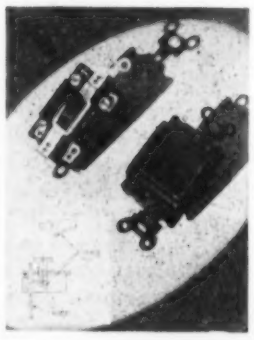
SELF-LOCKING NUTS



Resistant to loosening as result of vibration on many types of heavy-duty industrial equipment, Security locknuts are combination of standard nuts and specially designed retainers fabricated into permanent units. When locknut is applied, bolt forces slightly elliptical heat treated alloy steel retainer back into round and causes it to grip bolt securely. After retainer grips bolt, bolt load or stress is borne entirely by nut since retainer becomes isolated automatically from bearing contact with nut and functions solely as lock to prevent nut from turning. Locknuts can be obtained in from ⅜-16 to 2-4½ U.S. threads and from ⅜-24 to 1½-12 S.A.E. threads. Made by **Security Locknut Corp.**, 1815 N. Long Ave., Chicago 39, Ill.

▲ Mention Item NED-3106 when writing ▲

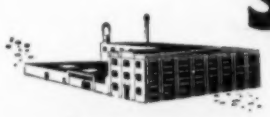
FLUSH TUMBLER SWITCHES



Available in 10 and 20-ampere ratings for all standard connections, flush tumbler switches are offered in single and double-pole, and three-way, four-way and single-pole, quadruple-break models. They are designed for back or top-wiring, utilize totally enclosed mechanism and employ double switch blades of positive self-aligning type protected by arc-snuffing barriers. Units are built into shallow 1½-inch base with washer-type plaster ears standard on all models. Made by **Arrow-Hart & Hegeman Electric Co.**, 101 Hawthorne St., Hartford 6, Conn.

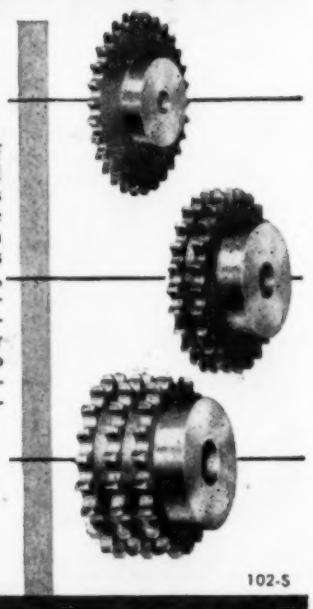
▲ Mention Item NED-3107 when writing ▲

CULLMAN Sprockets



OVER EIGHTY THOUSAND IN STOCK

More than half a century of specialization in the design and manufacture of sprockets has made Cullman a leader in the sprocket field. Today Cullman can ship promptly from it's stock of over 80,000 sprockets, of endless types and dimensions. Too, sprockets for special requirements can be quickly produced at low cost due to Cullman's long years of experience and high precision production methods.



Helpful Cullman Catalog
gives engineering data full information on sprockets and chains carried in stock.

102-S

CULLMAN WHEEL COMPANY
1333 Altgeld St., Chicago 14, Illinois

▲ Mention Item NED-3108 when writing ▲

CUT YOUR "DOWN-TIME" WITH GITS GRAVITY DRIP OILERS

Improper lubrication results in costly "down-time." Proper friction-fighting lubrication is efficient, dependable, and easily maintained. Check these features to see why Gits Gravity Drip Oilers *assure* proper lubrication, with a permanent, low-cost installation:

PIN POINT PRECISION CONTROL of rate of oil drip—by a Needle Valve Adjustment. Just the right amount of lubrication assures no burnt out bearings.

POSITIVE SHUT-OFF TOGGLE does not affect Needle Valve Adjustment, effectively conserves lubricant.

UNBREAKABLE PLASTIC RESERVOIR withstands severe flexing, hammer-like blows over a wide temperature range. Assures extra-long life.

TRANSPARENT RESERVOIR signals need for refills—even from a distance.

GENEROUS CAPACITIES eliminate frequent refills. Each man can oil more machines.

SIGHT FEED permits close observation of actual rate of oil drip.

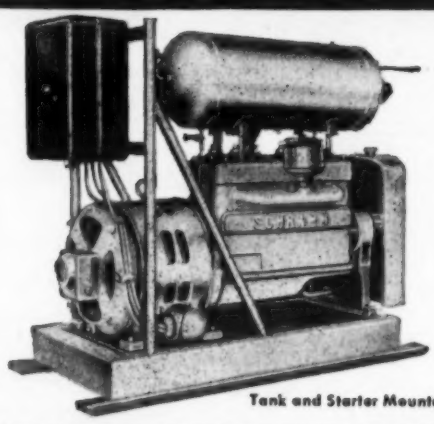
GITS STYLE "NFU"

Minimum "Down-time" means . . . More Production, Continuous, Uninterrupted Machine Performance, Smoothly Running Maintenance Operations. Minimum "Down-time" calls for GITS Gravity Drip Oilers! Standard Sizes Available from Stock.
Write Today for NEW BOOKLET.

GITS BROS. MFG. COMPANY
1833 South Kilbourn Avenue • Chicago 23, Illinois

▲ Mention Item NED-3109 when writing ▲

SCHRAMM
AIR COMPRESSORS



Tank and Starter Mounted

Both compressor and motor are mounted as a single unit on a substantial steel base which can serve as foundation, and includes motor starting controls and air receiver.

SCHRAMM INC. THE COMPRESSOR PEOPLE
WEST CHESTER
PENNSYLVANIA

▲ Mention Item NED-3110 when writing ▲

Houghton offers lubricants that will withstand up to 650°F!

HI-TEMP OILS

More and more demands arise for lubricants which will stand up under high heat for extended periods.

Ordinary petroleum lubricants cannot withstand temperatures above the fire point of the oil. They carbonize and freeze bearings. Houghton's Hi-Temp Oils include in their make-up an organic chemical of high flash point, which functions as the lubricant long after the mineral oil content finally oxidizes. A very minimum of fluffy carbon remains; bearings are not frozen, even under heat up to 650° F.

Kilns, oven conveyors, axle bearings of car bottom furnaces, all such hot applications, deserve Hi-Temp Oils. Write for descriptive circular and prices.

E. F. HOUGHTON & CO.
303 W. Lehigh Ave., Phila. 33, Pa.

▲ Mention Item NED-3111 when writing ▲

Don't let your business go to BLAZES

Because a fire can be so fatal to a business, thousands of industrial plants have replaced gasoline, kerosene, naphtha and other risky cleaning solvents with Penetone SENIOR.

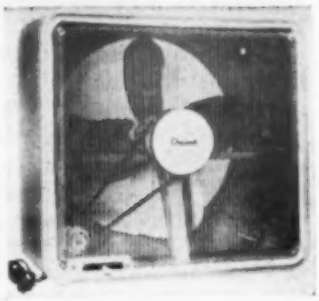
This non-inflammable, non-fuming liquid draws oil out of factory floors, degreases clogged machines and cleans metal parts in manufacture. Let us show you how Penetone SENIOR assures safer, more thorough cleaning at lower cost. Penetone SENIOR is safe on all floors and all metals including aluminum.

Today, send for Field Service Reports on Plant Maintenance and Direct Contact Degreasing.

THE PENETONE CO.
BOX ND 549 TENAFLY, N. J.

▲ Mention Item NED-3112 when writing ▲

WINDOW TYPE FAN



Available in 24 and 30-inch sizes, type WC cabinet fan can be mounted on window sill or supported from window frame. Fans are of sufficient capacity to provide complete change of air per minute in small offices and shops. Speed of 24-inch fan is variable from 460 to 660 revolutions per minute and of 30-inch model, from 270 to 400 revolutions per minute. Both are driven by ¼-horsepower motor, and capacities are 4500 and 6500 cubic feet per minute respectively. Because fans are reversible, they can be used to exhaust warm air or bring in outside cool air. Made by **Chelsea Fan & Blower Co.**, 1208 Grove St., Irvington 11, N. J.

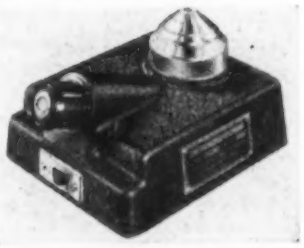
▲ Mention Item NED-3115 when writing ▲

CARBIDE TIPPED SAW BLADES

Providing cutting action similar to that of hollow ground types, carbide tipped saw blades in miter, planer, smooth trimmer, and combination styles can be used for ripping, cross cutting and mitering on oak and walnut veneers, Masonite, bakelite, Formica, Micarta, canvas, paper and asbestos base products. Combination blade is shown which features four-tooth sections followed by raker tooth sets with deeper throat. Carbide teeth are set alternately on each side of body so steel body does not contact cut, and teeth have alternating face shear as well as alternating top bevel angles. Made by **North American Products Co.**, 3110 W. Cherry St., Milwaukee 8, Wis.

▲ Mention Item NED-3116 when writing ▲

OPTICAL THICKNESS GAGE



Thickness of glass, plastics, quartz or any other transparent material where physical access to only one side is possible can be determined precisely with this Opti-Mike. This optical micrometer is accurate to 0.001-inch and can be used for checking wall thickness of lamp bulbs, closed or semi-closed vessels, tubing, chemical glassware, etc. It can be used on flat, convex or concave surfaces having smooth or pattern texture. Power is supplied by integral battery so that instrument is fully portable. It is equipped with precision optics including Bausch & Lomb microscope objective and eyepiece. Made by **Industrial Development Laboratories**, Williston Park, Long Island, N. Y.

▲ Mention Item NED-3117 when writing ▲

STOP COSTLY PLANT SHUTDOWNS

The oil-protecting "rocking bearing" allows *freedom of movement* to compensate for misalignment because the *spherical* base has the same *axis* as hub spline faces.

Specify Fast's

That's right! Fast's Couplings last longer than equipment they connect because they have no perishable parts to fail . . . nothing to replace, nothing to wear. Load-carrying oil is completely guarded by exclusive "rocking bearing," keeps dust, moisture on outside! Fast's are backed by top engineering experience, Kopper's high standard of workmanship, unexcelled coupling service. Save money, reduce shutdowns — specify Fast's, the *original* gear-type coupling.

Koppers Co., Inc., Fast's Coupling Dept., 285 Scott St., Baltimore 3, Md.

KOPPERS

FAST'S *Self-Aligning* **COUPLINGS**

WRITE FOR FREE CATALOG TODAY!

▲ Mention Item NED-3113 when writing ▲

ANOTHER MATERIALS HANDLING FIRST

NEW

Now you can ride the walking type "Jack Lift"

MULTIPLY MANPOWER LEWIS-SHEPARD

SAVES LEG WORK on the long hauls . . . Saves money all around the plant . . . on regular runs . . . in cramped quarters or narrow aisles.

REDUCE COSTS with this easy-maneuvering "Standrive" dependable "JackLift" Electric Truck. Operator rides or walks. Operates truck with handle in every position . . . All controls in the handle head . . . Instant smooth-action electric brake.

Platform and Pallet models — capacities 4000 and 6000 lbs. Tractor model for trailer trucks. Low maintenance. High efficiency. Long life.

For complete information write...

LEWIS-SHEPARD PRODUCTS INC.
702 WALNUT STREET, WATERTOWN 72, MASSACHUSETTS
REPRESENTATIVES IN PRINCIPAL CITIES CONSULT YOUR PHONE DIRECTORY

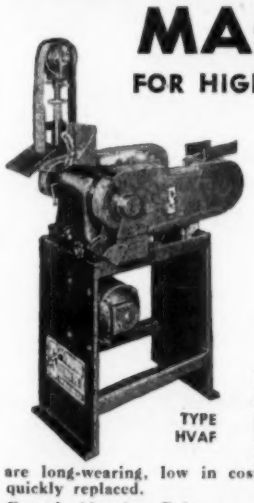
MIDWEST PLANT CRAWFORDSVILLE, IND.

"STANDRIVE" POWER FORK TRUCKS • "JACKSTACKER" ELECTRIC TIERING TRUCKS • "JACKLIFT" ELECTRIC TRUCKS • STACKERS • CRANES • SKIDS • PALLETS • HYDRAULIC AND MECHANICAL HANDLIFT TRUCKS • FLOOR TRUCKS • RACKS

▲ Mention Item NED-3114 when writing ▲

ABRASIVE BELT MACHINERY

FOR HIGHER PRODUCTION!



TYPE HVAF

HEAVY DUTY • BETTER FINISH • LOWER COSTS •

You will be astonished by the results obtained when you install STANDARD Coated Abrasive Belt Machinery. Eliminate slow-down by discarding your 'Set-up' polishing wheels. Abrasive Belts are long-wearing, low in cost, uniform in cutting ability and quickly replaced.

Coated Abrasive Belts are no longer confined to the light grinding and polishing operations—there is a Belt and suitable capacity Machine for a wide variety of operations.

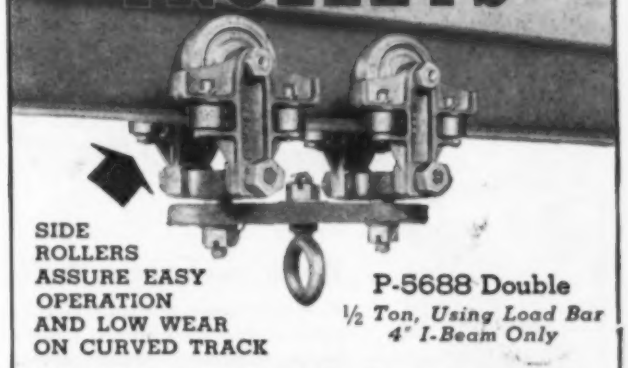
USES: Polishing, grinding, sharpen, deburr, bevel, shape, remove gates and fins, finishing flat stock, surface, contour, inside, flash, radius, chamfer, square, snagging, surface imperfections, clean-up from machine tool operations, etc.

Submit your finishing problems to STANDARD and write for Bulletin 70 showing complete line of Abrasive Belt Machinery.

THE STANDARD ELECTRICAL TOOL CO.
2488 RIVER ROAD CINCINNATI 4, OHIO

▲ Mention Item NED-3118 when writing ▲

hand pushed TROLLEYS



SIDE ROLLERS ASSURE EASY OPERATION AND LOW WEAR ON CURVED TRACK

P-5688 Double
½ Ton, Using Load Bar
4" I-Beam Only

Webb *Hand Pushed Trolleys* are versatile, simple, economical, effective. Drop-forged, hardened wheels assure long wear; ball bearings and side-guide rollers make them very easy to push. Write for *Hand Pushed Trolley* Bulletin and prices.

jervis b. webb co.
CONVEYOR ENGINEERS and MANUFACTURERS
8951 Alpine Ave. • Detroit 4, Mich.
WEBB
Offices in Principal Cities

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At 9 out of 10 of the largest and most important decision points in American industrial purchasing, MacRAE'S BLUE BOOK is used as a reference source "principally" or "exclusively."

Send for your copy of a new survey result booklet, "Where Orders Originate."

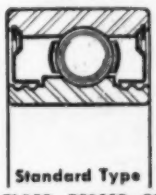
18 E. Huron

▲ Mention Item NED-3120 when writing ▲

NORMA-HOFFMANN "Cartridge" Bearings

- Simplify Design Problems
- Speed Assembly of Products
- Give Long Operating Life
- Improve Product Performance

Patented



Standard Type

This modern Norma-Hoffmann "Cartridge" Bearing improves product performance and lowers your production costs with these outstanding advantages — Double-row width provides 100% more grease capacity; relubricate only after years of service . . . Tight fitting wearless metal seals exclude dirt and dust . . . Increased shaft strength, reduced overhang . . . Full size balls give full load carrying capacity . . . Elimination of many parts and machining operations. Write for catalog giving full details on "Cartridge" Bearings.

NORMA-HOFFMANN BEARINGS CORPORATION
Precision Ball, Roller, Thrust Bearings
STAMFORD, CONNECTICUT

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Clean as a Whistle...

. . . the air you breathe, that is

when you wear a Dupor No. 20 water-cooled respirator. Double sponges dipped in water provide cool, clean as a whistle breathing even if it's hot and smoky. Painters, foundrymen, chemists, firemen have called this their favorite for years.

Panorama vision and controlled breathing are yours with this coolest-of-all respirators. Order today from . . .

H. S. COVER, South Bend, Ind.

DUPOR no. 20 Sample Sent **$2.25** pp

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AIR CONTROL VALVES

"VALVAIRS"

Lever operated type illustrated

- NON-CORROSIVE
- NO METAL SEATS
- FULL PIPE AREA USED

60 types to choose from

2-WAY
3-WAY
4-WAY

Ask for Bulletin "A-N".

VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio
AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair — 2-WAY 3-WAY 4-WAY

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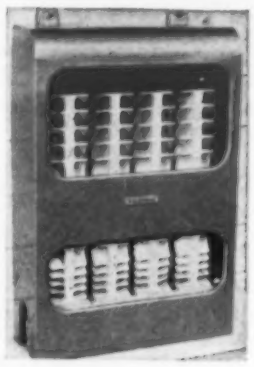
Industrial CRANES

Improve Your Profit!

INDUSTRIAL EQUIPMENT CO.
327 NORTH ADA STREET CHICAGO 7, ILLINOIS
Write for Catalog. Representatives in Principal Cities.

▲ Mention Item NED-3124 when writing ▲

ELECTRIC HEATER



Complying with Underwriters' Laboratories requirements for approval as Class 1, Group D hazardous locations, explosion-proof electric heaters are designed for use in atmospheres containing such volatile and inflammable materials as gasoline, naphtha, acetone, lacquer and natural gas. Heaters incorporate cast aluminum natural convection safety grids, nickel chromium resistor wires insulated and sheathed in seamless metal tubing embedded in one-piece finned aluminum castings and thermostatic contactor controls. They can be obtained in models CX-2, CX-4 and CX-6 rated at 2000, 4000 and 6000 watts respectively; the first two of which can be supplied for operation on either 240 or 480-volt single-phase current and third for same voltage but for either single or three-phase current. Made by **Electromode Corp.**, 45 Crouch St., Rochester 3, N. Y.

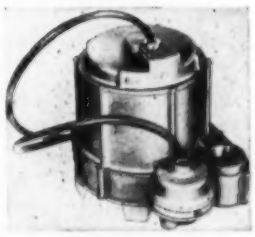
▲ Mention Item NED-3125 when writing ▲

SMALL INDUSTRIAL WHEEL

Riveted construction of Econo-Mite 5 x 1.75-inch rubber-tired industrial wheel assures true alignment and facilitates installation of complete unit on all types of light portable equipment. Wheel has 2-inch hub length and ball bearings for ⅜ or 7/16-inch axle. Tire lugs are meshed perfectly into wheel lugs to prevent tire slippage, and wheels are made to Tire and Rim Association standards. Made by **Geneva Metal Wheel Co.**, 1055 Railroad St., Geneva, O.

▲ Mention Item NED-3126 when writing ▲

SUBMERGIBLE SUMP PUMP



Capable of continuous uninterrupted operation, model P-109 completely submergible sump pump is designed to pump sump dry to eliminate stagnant dirty water. It is powered with 1/3-horsepower 115-volt alternating current motor, is rated at 3300 gallons per hour at 10 feet, and will pump water to height of 25 feet. Turn-on point or height of water which is required to start pump is easily adjustable from few inches to several feet without special tools. Pressure of rising water actuates diaphragm switch which is located in discharge-line, and subsequent pumping action keeps it in operation. Switch automatically shuts off when pump draws air. Discharge connection is vertical for installation convenience and eliminates need for extra elbows or street ells. Since motor is hermetically sealed, power failure does not affect it; and operation is resumed when power is restored. Made by **Kenco, Inc.**, Elyria, O.

▲ Mention Item NED-3127 when writing ▲

CONVEYING SYSTEMS

This is an ad, not an editorial, but if you're cost-conscious you'll find the facts about Buschman Engineered Conveyors as important to you as any editorial.

Planning, designing and building power conveyors of all kinds to transport materials or finished products, Buschman "engineers" conveyors to meet your specific problems.

Buschman conveying systems bring efficient handling to all phases of your plant operation . . . from receiving, through production, to final shipment. Cost records on Buschman installations in plants of every type show handling cost reductions as high as thirty per cent.

With wide experience in every type industry, Buschman engineers can economically solve your handling problems . . . help you show a bigger profit.

For complete details, write for Catalog No. 300.

Buschman *Conveyors*

THE E. W. BUSCHMAN CO., INC.
Spring Grove at Winton Place, Cincinnati 32, Ohio

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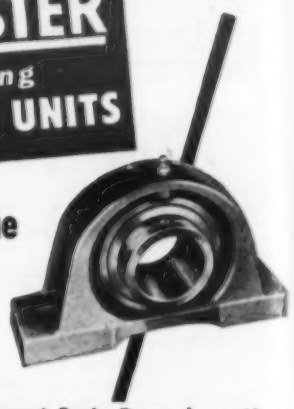
FOR GREATER OPERATING ECONOMY...

SEALMASTER Self-Aligning BALL BEARING UNITS



SEALMASTERS alone have this exclusive combination of Features

Pillow Blocks
Take-Up Units
Flange Units
Cartridge Units
Flange Cartridge Units

- **Positive, Permanent Seal**—Patented centrifugal seal retains lubricant and keeps out dirt.
- **Self-Aligning**—SealMasters simplify mounting. Shaft misalignment cannot distort seal.
- **Pre-Lubricated**—SealMaster bearings are shipped with lubricant sealed in, ready for immediate service.
- **Patented Locking Pin**—Prevents rotation of outer race in housing . . . permits several degrees of shaft misalignment and positions unit for relubrication.

Write for SealMaster Catalog 845

STEPHEN S-ADAMSON Mfg. Co.
12 Ridgeway Ave., Aurora, Illinois — Los Angeles, Calif. - Belleville, Ont.

Factory Representatives and Dealers in All Principal Cities

▲ Mention Item NED-3129 when writing ▲

EXCELALL 179H

POST

TRACING PAPER

POST'S Excelall Tracing Paper is the finest product fitted to the exacting needs of draftsmen and engineers. Its white linen quality and satin finish are excellent for ink or pencil and for making prints. Comes in two weights.

TRY *this ultra-transparent POST Tracing Paper under your operating conditions. Write for your free sample today—care of P. O. Box 1091, Chicago 90, Illinois.*

THE FREDERICK POST COMPANY
3650 AVONDALE AVENUE, CHICAGO 18, ILLINOIS
Distributors in all Principal Cities

FOR EVERY PLAN YOU MAKE— THERE'S A PAPER BY POST

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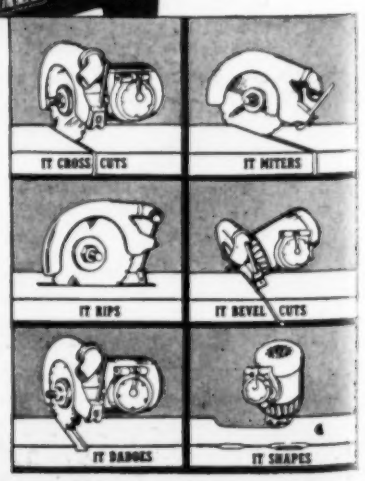
THE NEW DEWALT

ALL-PURPOSE POWER SAW!

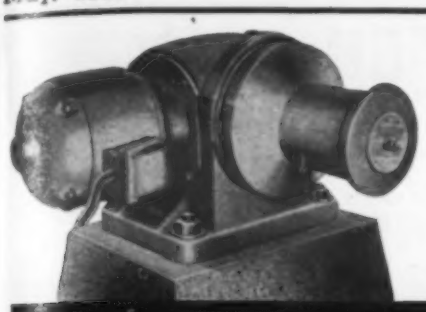
Does the work of many *machines!* Accurate, flexible, dependable — precision built for continuous service.

Write for catalog.



DEWALT, INC.
Lancaster, Penna.
125 Fountain Avenue

▲ Mention Item NED-3131 when writing ▲



SAVE TIME! SAVE MONEY!

S-A Car Pullers

CUT CAR MOVING COSTS

Don't wait for a switch engine or a gang of men... Get an S-A Car Puller.

One man, with an S-A Car Puller, can spot up to 6 loaded cars, or pull other loads.. at any time... at a speed of 45 feet per minute.

Catalog No. 1339, gives data on types and sizes of S-A Car Pullers, Rope, Car Hooks and Sheaves.

STEPHEN S-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Saco Speed Reducers

12 RIDGEWAY AVENUE, AURORA, ILLINOIS

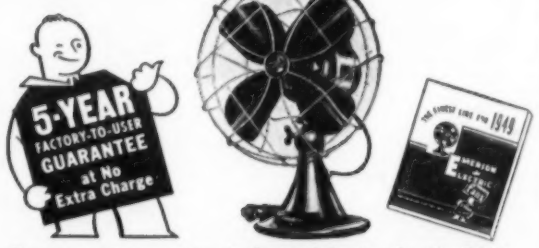
Mention Item NED-3132 when writing

MORE SERVICE... LESS SERVICING

when you "breeze-condition" with

EMERSON-ELECTRIC FANS

The life of a fan depends largely on the endurance of its *bearings*. The rotors of Emerson-Electric 12- and 16-inch AC Oscillators revolve on a stationary, case-hardened steel shaft anchored in the motor frame. Oil-tight, and virtually wearproof, this exclusive "lifetime" bearing explains the service reputation enjoyed by these fans—and their 5-Year Guarantee. It *pays* to ventilate with dependable Emerson-Electric equipment.



See your contractor; or write for 1949 Fan Catalog No. T-139.

THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

EMERSON ELECTRIC MOTORS • FANS APPLIANCES

Mention Item NED-3133 when writing

MILL BOXES

(Maybe you call them "TOTEBOXES")

•

SPEED-UP PRODUCTION WITH "Bal-Bilt" BOXES

•

Made to RESIST HEAVY WEAR!

for ASSEMBLING CARRYING SORTING INSPECTING and many other special purposes

BAL makes them in all sizes,—short, tall, wide or narrow, with or without compartments or dividers. *ALL* of them hard, vulcanized fibre, reinforced at *all* wear-points, with hardwood runners, with or without handles.

Use them to speed-up production; to promote orderly flow of parts; prevent loss; *measure* a day's production; simplify handling. And be sure you get BAL-BILT guaranteed quality.

Write, stating size, quantity and purpose required.

"SINCE 1898"

WILLIAM BAL CORPORATION

11 Johnson Street, Newark 5, N. J.

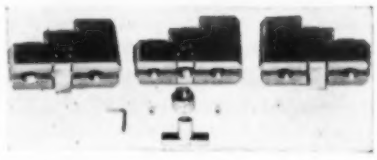
Mention Item NED-3134 when writing

FANFOLD WRITING MACHINE

In addition to combining fully electric keyboard for speed and uniformity of type impressions with improved automatic features for simplified machine manifolding operations, electric keyboard fanfold writing machine is equipped with automatic electric carriage return and two-position intermediate return. Machine has full length tabulator bar for either left or right hand operation, palm tabulator for rapid selection of columnar positions and transparent form cutting knife to permit unobstructed insertion of loose forms. Redesigned form measuring guide facilitates removal of forms, and machine is equipped with floating sheet carbon paper bracket plate for sheet carbon paper. Standard typewriter keyboard with standard arrangement of keys makes machine adaptable for use by all typists. Made by **Underwood Corp.**, Dept. NEDF, 1 Park Ave., New York 16, N. Y.

Mention Item NED-3135 when writing

ADJUSTABLE CHUCK JAWS



Because they compensate for adjustment and wear in universal chucks, Tru-Loc top jaw adjustments extend use of jaws and scroll. Eccentric bushing allows adjustment of top jaw up to 1/32-inch by manipulation of two adjusting screws. By this method, top jaw can be trued up to compensate for wear on threads of both scroll and jaw. Units are designed to fit any American Standard master jaw. Made by **Whiton Machine Co.**, 542 Howard St., New London, Conn.

Mention Item NED-3136 when writing

JET PUMPS

Available in sizes to handle up to 2000 gallons per hour, jet type pumps can be converted quickly from shallow to deep well operation to meet such contingencies as falling water tables. Pumps employ bronze venturi tubes and nozzles and stainless steel pump shafts mechanically sealed against leakage. Pressure switch controls motor operation according to tank pressure, and unit does not require relief valve. Quiet operation results from absence of belts, gears and other conventional components. Dripproof heavy-duty ball bearing motor is bolted to pump shell. Made by **Aurora Pump Co.**, 91 Dearborn, Aurora, Ill.

Mention Item NED-3137 when writing

newest complete data on STEEL ROLLING DOORS for every need

Here's complete information on smooth-working, space-saving doors for every need! The early upward action of Kinnear Rolling Doors brings time-saving efficiency and extra, all-around protection to any doorway. Any size: motor or manual control. Also full data on sectional-type upward acting doors. Send for your free copy of this latest issue.

THE KINNEAR MFG. COMPANY

Factories:
3017 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.

Offices and Agents in all principal cities

Mention Item NED-3138 when writing

More Wash Facilities in Less Space

With Bradleys

In the plant at Canadian Industries Ltd., Toronto, there is one Bradley Washfountain for each group of lockers.

IF you'd like to expand present wash facilities but you lack sufficient space, Bradley Washfountains will do the job. One 54" circular Bradley serves 8 to 10 persons simultaneously and conveniently.

Maintenance too, is kept at a minimum; with only 3 piping connections—hot water, cold, and drain and only one Bradley Sprayhead doing the work of 16 to 20 faucets. Users also report water savings up to 75%. Furthermore, automatic foot-control and self-flushing bowl assure maximum sanitation by keeping hands free from contagious wash basin contacts. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan Street, Milwaukee 1, Wisconsin.

BRADLEY washfountains

Distributed Through Plumbing Wholesalers.

Write for your free copy of big illustrated Catalog 4701.

Mention Item NED-3139 when writing

COLUMBUS McKINNON CHAIN CORPORATION

(Affiliated with Chisholm-Moore Hoist Corporation)

GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.

SALES OFFICES: NEW YORK • CHICAGO • CLEVELAND • SAN FRANCISCO

Other Factories at Angola, New York, St. Catharines, Ontario and Johannesburg, S. A.

Mention Item NED-3140 when writing

MEMO

No matter what your tramp metal problem may be, there is a Homer permanent magnetic Separator to suit your needs

see Homer first for
PLATE TYPE SEPARATORS - PULLEYS
DRUMS - PNEUMATIC HUMPS
LIQUID TRAPS - PORTABLE UNITS

In HOMER Permanent "non-electric" Magnetic Separators, you get only the "finest" of materials combined with "proven" design.

Homer engineers are thoroughly qualified to analyze your tramp metal problems and to make processing recommendations. Let us help you —write us today.

The HOMER MANUFACTURING CO., Inc.
Dept. I-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

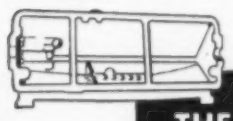
Mention Item NED-3141 when writing

Then angle for one that's a lightweight

★ Like Well-Cast aluminum or magnesium castings... They're light (magnesium is 75% lighter—aluminum 35% lighter than iron). They're easy to machine. They're tough.

Well-Cast puts your product out in front with a modern metal... lightweight, featherweight.

We can show you new ways to put light metals to work on your product. 37 years of know-how. *Write for Catalog No. 47.*



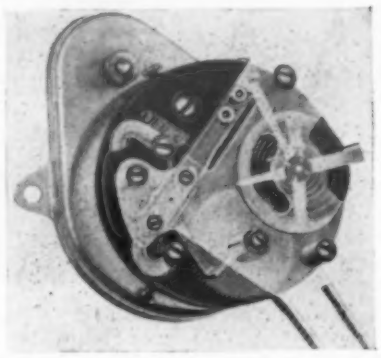
Well-Made Patterns

THE WELLMAN BRONZE & ALUMINUM CO.

2563 EAST 93rd STREET • CLEVELAND 3, OHIO

Mention Item NED-3142 when writing

DIRECT CURRENT TIMER



Incorporating marine type clock escapement governor, series 5500 nonjeweled and 5700 jeweled direct current motors afford accurate speed drive for recording and controlling mechanisms, computers, time delay relays, time switches, timers, etc. Operation is unaffected by wide variations in voltage, load and temperature. Unit will withstand vibration, gravity, humidity and corrosive atmospheres encountered in aircraft applications.

Pulses of full line voltage are applied to motor at regular intervals controlled by escapement mechanism, and duration of pulses is determined by travel of motor. This results in uniform travel of motor during each time interval, and constant rotor speed is obtained. Unit always stops with contacts closed, is self-starting and reversible. Accuracy of jeweled 5700 series motors is within 0.1 per cent of rated speed under voltage variations of 20 per cent, load variations of 0 to 30 inch-ounces, and temperature range of −50 to 150° F. Nonjeweled series 5500 maintains accuracy within 1 per cent under same conditions. Made by **A. W. Haydon Co.**, 111 W. Main St., Waterbury 32, Conn.

Mention Item NED-3145 when writing

JEFFERSON SAF-T-LAG *Thermal* FUSES

Needless motor stops and expenses can be avoided by using fuses which protect TIME as well as motors.

In Jefferson Saf-T-Lag Thermal Fuses a leaf type trigger spring is rigidly connected to one of the two solid copper elements while the other end, under tension in an upward direction, is held to the opposite copper element by means of solder having a melting point of 280° F.

Since the heat is absorbed until reaching the melting point of the thermal solder connection, which involves a longer heating interval, the result is a time-lag four to five times longer than usual.

On long, heavy overloads and on short circuits, the notched thin end fuse elements provide immediate protection by blowing in less than 1/10 of a second—before the thermal solder can melt. Fuse Booklet 482-ST sent upon request.

JEFFERSON ELECTRIC COMPANY
Bellwood, Illinois

Mention Item NED-3148 when writing

NOW Handle Double-Faced Pallets EASILY with SERVICE LEVERLIFT

Here is the only pallet truck with tines which can enter your double faced pallets with no jockeying. Magic "Toggle Booster" rollers "float" truck frame and wheels over bottom face of pallet so gently that even an empty pallet isn't jarred out of position. Leverlift enables you to use *all* floor space where it's too crowded to work power-operated equipment. Here is the easiest and quickest hand-operated way to move palletized loads. *Write for detailed specifications today.*

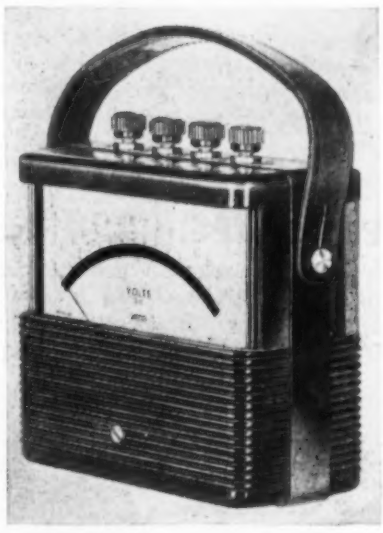
SERVICE CASTER & TRUCK CORP.

INDOOR MILES Made EASIER and SAFER

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.
See your Classified Telephone Directory for Nearest Distributor.

Mention Item NED-3143 when writing

PORTABLE ELECTRIC METERS

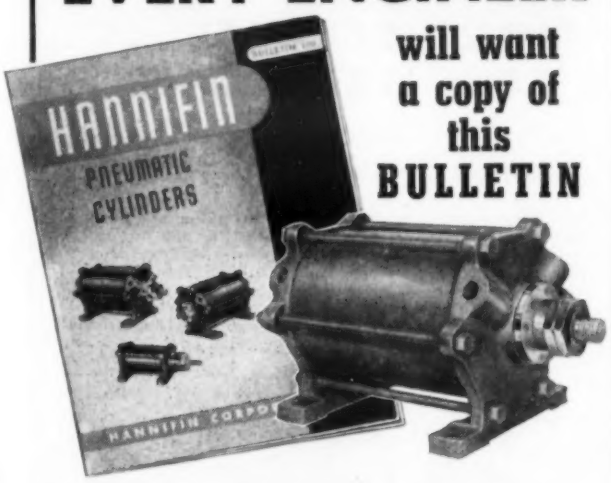


Modern design, excellent scale visibility and efficient shielding are features of model 901 series of portable alternating and direct current instruments. They have unbreakable windows which extend full width of case and curve around sides to assure shadowless illumination of 5½-inch hand-calibrated mirror scales and knife-edge pointers. Shielding in direct current models is such that 7000-ampere conductor at 3 feet causes error of less than 0.5-per cent of full scale value.

Instruments are available as direct current voltmeters, volt-ammeters, milliammeters and microammeters, with alternating current models as voltmeters, ammeters and milliammeters, all with accuracy within 0.5-per cent. Alternating current rectifier type instruments can be supplied as voltmeters and milliammeters with accuracy within 1.5 per cent. Made by **Weston Electrical Instrument Corp.**, 663 Frelinghuysen Ave., Newark 5, N. J.

Mention Item NED-3146 when writing

EVERY ENGINEER will want a copy of this BULLETIN



It's easy to get the right answer for even the most special jobs when you use Hannifin's new hand-book on PNEUMATIC CYLINDERS. 48 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 10 standard bore diameters, 1" to 12" . . . any length stroke you specify . . . 6 standard mounting styles . . . also combination mounting and double end rod styles . . . available with adjustable cushions . . . pressure to 250 lbs. per sq. in. Write for Bulletin 210-R.

HANNIFIN CORPORATION

1101 S. Kilbourn Ave., Chicago 24, Ill.

Mention Item NED-3149 when writing

Lubricating & Industrial Oils *DO NOT WEAR OUT!*

Save by Re-refining with RETROL®

Oils in use collect harmful impurities but do not wear out. Re-refining with Retrol restores excellent quality to lubricating and insulating oils — saving many thousands of gallons of oils which were formerly discarded.

What is Retrol? Retrol is a highly activated adsorbent manufactured especially for the re-refining, decolorizing, purifying and filtering of used lubricating and industrial oils
— using proven petroleum refining principles
— distillation, adsorption and filtration.
Send for free booklet entitled "American Industry Speaks."

Filtrol products are available throughout the world

Re-refine with RETROL®

FILTROL CORPORATION
634 South Spring Street
Los Angeles 14, California
Please send me your book entitled "American Industry Speaks."
Company_____
Name of Individual_____ Title_____
Address_____
City_____ Zone____ State____

Mention Item NED-3144 when writing

Better contour grinding

Grinding an inside curve is easy with contact wheel formed to fit.

The concave surface of this contact wheel fits the job perfectly.

as developed by **BEHR-MANNING PIONEERING *and* METALITE® BELTS**

A flexible abrasive belt and a contact wheel formed to fit the work made this wrench finishing job faster and better. Faster, because of the sharper, factory-coated belt. Better finish because of the grit uniformity of the METALITE belt, and the uniform pressure of the formed contact wheel.

Behr-Manning Application Engineers are constantly solving new grinding problems. Bring yours to them. Write us today.

BEHR-MANNING • TROY, N.Y.

NORTON abrasives

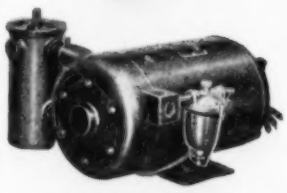
ALSO QUALITY OILSTONES FOR INDUSTRIAL NEEDS

Mention Item NED-3147 when writing

More Air, or Vacuum in less machine space

Compactness of **MOTOAIR PUMP** makes machine *RE-DESIGN* worth while!

AUTOMATIC, VISIBLE LUBRICATION



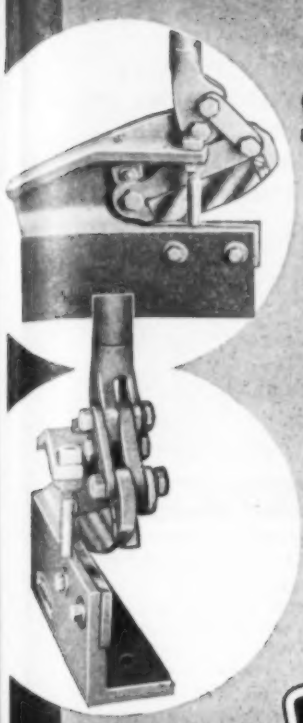
LESS SPACE
LESS PARTS
NO DRIVES
NO BELTS
NO HINGED BLADES

Motoair Pump has the capacity for most industrial machine requirements, and is so compact that it can be included as a machine accessory without increasing the size of the unit it serves. Complete, powered pump is scarcely larger than the motor operating it! *Ask for Catalog*

NEW JERSEY MACHINE CORPORATION
1530 Willow Ave. • Hoboken, N. J.
Factory offices in Chicago, Cincinnati, Los Angeles

Mention Item NED-3950 when writing

BEVERLY Slitting SHEAR



"S-3" Slitting Shears for slitting, cutting and trimming sheet steel or any other material, have compound power transmission, which provides smooth, easy operation. Interchangeable and adjustable blades of high quality tempered and drawn tool steel are firmly held in alignment by the rigid frame to assure clean cutting, regardless of the thickness of metal—up to capacity. Unique adjustable shoe, bearing on upper blade holder, provides additional support for the upper blade, which increases the strength and cutting efficiency of the Shear.

Slitting capacity 1/8"; trimming 3/16"; bar capacity 1/4" x 2" (capacities given are in mild steel).

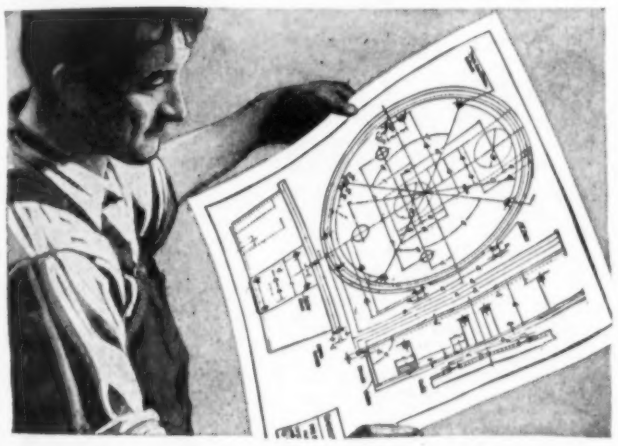
Ask your Beverly Dealer for a demonstration or write for full details and illustrated circular.

High Carbon High Chrome Blades for cutting stainless available on special order.

The BEVERLY SHEAR MFG. Co.
3016 W. 111th St.
Chicago 43, Ill.

▲ Mention Item NED-3151 when writing ▲

DRIPRINT
TRADE MARK



The *Better* Dry-Developed Paper for *Better* Prints

Improvement has followed improvement in the chemistry of print-making papers and processes. Only frequent comparison of the many methods and materials available can bring you the real benefits of this progress. If you are a user of direct positive prints produced by ammonia vapor development, or are interested in adopting this process, be sure to try Dietzgen's DriPrint, the *better* dry-developed paper, and *see* the difference. May be used with any make of high-speed printing and developing equipment. Superior contrast, firm full-bodied lines with clear white backgrounds . . . reliable uniformity . . . time-saving speed . . . these desirable features have made Dietzgen's DriPrint the specified choice of thousands of discriminating print users. A better paper at no extra cost. Available in cut sheets or rolls. Ask your Dietzgen dealer or nearest Dietzgen office for a demonstration.

EUGENE DIETZGEN CO.
Chicago • New York • San Francisco • New Orleans
Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee
Dealers in All Principal Cities

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▲ Mention Item NED-3152 when writing ▲

PLASTICS MOLDING MACHINE

Designed for use with drill press, ¼-ounce plastics injection molding machine is intended for experimental molding of Bakelite styrene plastics in industrial laboratories. Machine is equipped with standard heating elements thermostatically controlled from 250 to 500° F, has 3-inch stroke and operates on 110-125-volt alternating current. Polystyrene molding materials in standard colors and experimental lead dies can be obtained from manufacturer also. Made by **Plastics Development Corp.,** 225 Lafayette St., New York 12, N. Y.

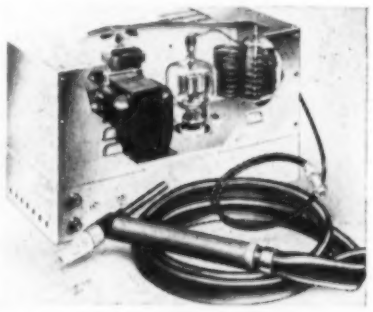
▲ Mention Item NED-3153 when writing ▲

PLASTIC HANDLE CHISEL

Of tanged butt type in widths ranging from ¼ to 2 inches, Swedish wood chisels are supplied with handles of machined plastic which is unbreakable under normal use and not affected by heat or cold. Chisel blades are heat treated, tempered, sharpened, honed and polished. Three sizes of handles are available separately for use on files and other tools. Made by **Gensco Tool Div.,** Dept. LB, 1830 N. Kostner Ave., Chicago 39, Ill.

▲ Mention Item NED-3154 when writing ▲

INERT GAS ARC WELDERS



Utilizing single tube full wave self-rectifying type oscillator in conjunction with modified torch to provide maximum transfer of radio frequency energy, Federal Communications Commission approved model IGT inert gas arc welders reduce spurious and harmonic radiation to acceptable levels. Units are self-contained; have few component parts and will remain on assigned frequency regardless of working conditions, changes in humidity or temperature. Entire high frequency circuit operates at ground potential, and maximum voltage at torch is welding voltage. Machine is protected against insulation breakdowns by preventing feedback of high frequency energy into unit. Use of arc balancing circuit in welders improves both welding characteristics and power factor and therefore results in lower current input. Models are obtainable in NEMA ratings of 150, 200, 300, 400, 500 and 750 amperes. Made by **Glenn-Roberts Co.,** 2107 Adams St., Indianapolis 18, Ind.

▲ Mention Item NED-3155 when writing ▲

Now You Can Test Viscosity as easily as Temperature or Density

by using a
BROOKFIELD VISCOMETER

COMPLETELY PORTABLE • RELIABLY ACCURATE • EXTREMELY RAPID

In just 30 seconds anyone can test viscosity with the Brookfield Viscometer — no special skills or technical training needed. Readings can be taken in lab or plant with equal ease, as instrument is portable and needs only connection to an electrical outlet. Now you can match laboratory standards in the plant and be sure of uniform results.

Send for our new 8-page illustrated Bulletin which gives full information on the instrument and its applications.

BROOKFIELD
ENGINEERING LABORATORIES, INC.
230 Porter Street, Stoughton, Mass.

▲ Mention Item NED-3156 when writing ▲

Something NEW! Volatile Solvent

CARBON MET

A HALOGENATED AROMATIC HYDROCARBON

A specific replacement for toxic Carbon Tetrachloride

Out and out metal dry cleaning solvent and degreaser in ready-to-use "Handy Kit" containing Patented dip and drier basket.

- Quick Cutting solvent against stubborn dirt and grease.
- Non-Explosive and relatively non-toxic.
- Non-Corrosive to metals. • Fast, clean evaporation.
- Non-Ionic . . . ideal for degreasing and cleaning electrical parts.

MUCH FASTER CUTTING THEN "CARBON TET" . . .
CAUSES NO RUSTING . . . LEAVES NO FILM

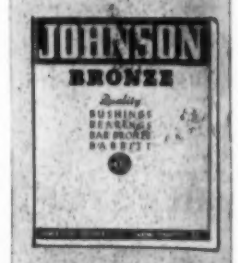
Sold by industrial jobbers everywhere. Shipped "*Prepaid*" Express, if your jobber is out of stock.

CURRAN CORP.
Mfg. Chemists
LAWRENCE, MASS.
IMMEDIATE DELIVERY . . .
1 GALLON OR A TANK CAR

U. S. PAT. 2318842

▲ Mention Item NED-3157 when writing ▲

order JOHNSON BRONZE BEARINGS from catalog



• Most of your bearing needs are listed in the Johnson Catalog—standard stock sizes. There are over 850 sizes of General Purpose (GP) Bearings, over 300 Electric Motor (EM) Bearings and more than 350 sizes of Universal Bronze Bars, both solid and cored. You can save time and money by ordering from this 84 page Johnson Bronze Catalog. Write for your copy today.

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
580 SOUTH MILL STREET • NEW CASTLE, PA.

▲ Mention Item NED-3158 when writing ▲

Why Paint Twice?

ONCE is enough with ECLIPSE PAINT SPRAY EQUIPMENT

It usually takes two coats to cover with a brush or an ordinary spray gun. *But*—ECLIPSE *gives a one coat solid coverage job faster.*

You save time and material. Figure that in dollars and cents. You'll find Eclipse cuts paint job costs—and you get better results.

The Eclipse exclusive low pressure principle reduces offspray—provides even and complete hiding—greater uniformity, adhesion and durability.

Eclipse Does a Faster—Better Maintenance and Product Painting Job.

See for yourself. *Write for our latest literature.*

ECLIPSE AIR BRUSH COMPANY
325 Park Avenue, Newark 7, N. J.
Spray Equipment Division

Spray Equipment Division
ECLIPSE
Manufacturers of Low Pressure Spray Equipment Since 1908

▲ Mention Item NED-3159 when writing ▲

UNLOADS 92,000 LBS. IN 30 MINUTES

With this 5-ton Robbins & Myers electric trolley hoist, one operator and two handlers unload and store 23 two-ton bundles of sheet steel in only thirty minutes. That's typical of how these speedy R & M's step up materials handling all along the line. They save time, energy, money—increase worker efficiency—boost production.

SPEED, STRENGTH, STAMINA

R&M hoists are job-fitted—you get the best hoist for the work in every case. Types and sizes serve all needs. Push-button, pendent-rope, or remote control. Instant response. Automatic, self-adjusting brakes that hold without "drift." Ball and roller bearings. Low headroom. Enclosed R&M motor. Stationary, hook, or trolley mounting. Capacities to 20,000 lbs. Negligible maintenance.

For fast, orderly lifting or lifting-and-moving—for dependability that pays off in profits—"Take it UP with R & M." Write for descriptive literature.

ROBBINS & MYERS, INC.
HOIST & CRANE DIVISION, SPRINGFIELD 99, OHIO

Mention Item NED-3160 when writing

FILTER MASKS

Designed for protection against nontoxic nuisance dusts, Flex-a-foam lightweight filter mask is capable of filtering particles as small as 1/25000-inch. Frames are of molded plastic which can be adjusted to all facial contours. Filter is honeycomb construction of whipped foam latex, ventilated by interconnecting air cells that allow passage of air yet keep out pollen and nontoxic dusts except free silica where concentration is heavy and poisonous dusts or fumes. Composed of four interlocking parts, entire mask weighs 1 ounce. Made by **Goggle Parts Co.**, 1468-70 W. Ninth St., Cleveland 13, O.

Mention Item NED-3162 when writing

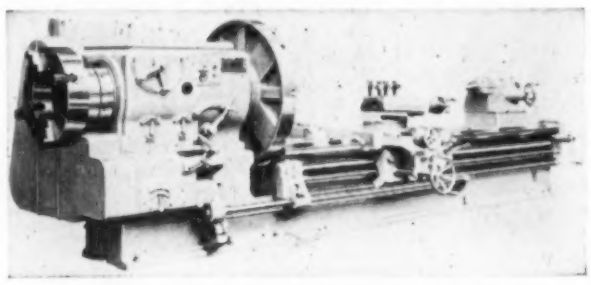
DETACHABLE ROLLER CHAIN

Available in all sizes below ¾-inch pitch, detachable roller chain utilizes clip type retaining ring that fits into groove on pin. Having no extended points, fastener cannot collide with other fasteners during chain drive operation. Made by **Atlas Chain & Mfg. Co.**, 3805-11 Castor Ave., Philadelphia 24, Pa.

Mention Item NED-3163 when writing

COMBINATION LATHE

By combining 25-50-inch sliding bed gap and 27-inch hollow spindle lathes, combination lathe with swing capacity of 60½ inches within 5-foot wide gap and having

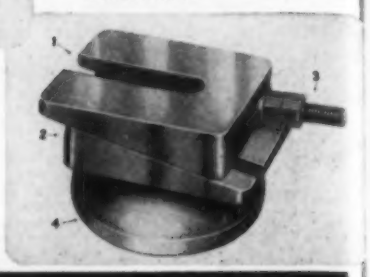


spindle hole of 12½ inches is obtained. Combination offers productive capacity of sliding bed gap, hollow spindle and standard heavy-duty lathes. Improvements include automatically lubricated quick change box, geared headstock with heat treated steel gears, carriage which permits facing full swing of gap and hardened and ground steel bed ways front and rear on upper bed. Large bore chucks can be fitted to both ends of hollow spindle, and face plates can be mounted on flange-type spindle nose. Detachable levers are provided for moving tailstock and upper bed. Standard accessories and attachments are available. Made by **R. K. LeBlond Machine Tool Co.**, Edwards Rd., Cincinnati 8, O.

Mention Item NED-3164 when writing

GY-A-LINER REG. U.S. PAT. OFF.

FOR PRECISE ALIGNMENT OF MACHINERY MOTORS ENGINES



Capacity
Loads Up to 10,000 lbs.

1. Top Leveling Plate
2. Center Leveling Plate
3. Take Up Mechanism
4. Self-Leveling Base Plate

GY-A-LINER Offers these Advantages:

Gy-A-Liner is a wedge leveling-block which can be put under any machine bolted to the floor to insure and maintain perfect alignment.

1. Provides a solid, level, adjustable support.
2. Saves time; easy, simple adjustment and inspection.
3. Prevents wear of machine parts through heat or vibration.
4. Aids in the accuracy of machine work and prevents spoilage.
5. Approved by engineers, machine designers and shop men.

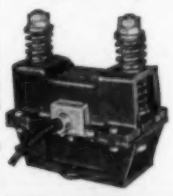
WRITE *for descriptive bulletin and specifications*

GY-A-LINER MANUFACTURING COMPANY 22 TOBIN AVE. REVERE, MASS.

Mention Item NED-3166 when writing

SYNTRON REG. TRADE MARK

Speeds Up Bulk Material Handling

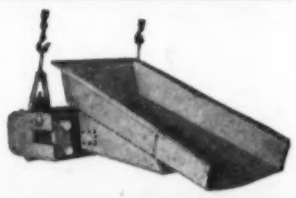


BIN VIBRATORS

Eliminate arching and plugging of bins, hoppers and chutes.

For little hoppers—to big bunkers.

VIBRATORY FEEDERS



Up to hundreds of tons per hour of bulk material—at instantly controllable rates of flow.

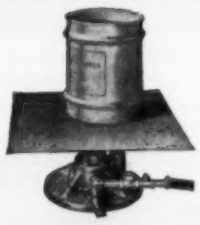
VIBRATING GRIZZLIES

Scalping and sizing various materials—for crushing oversize—provide a cushion of fines on conveyor belts, etc.

VIBRATING SCREENS

For close sizing and classification of materials.

Dedusting — dewatering and washing—with variable control of flow.



PACKERS and JOLTERS

Settle materials in forms—cans, bags, sacks, cartons and barrels.

Highspeed electric, and hydraulic jolt models.

LONG VIBRATORY CONVEYORS

For rough abrasives—hot, burning materials—enclosed to prevent contamination.

Write for literature

SYNTRON CO.

405 Lexington Homer City, Pa.

Mention Item NED-3161 when writing

A REAL TIME-SAVER..

UNBRAKO
Reg. U. S. Pat. Off.

***KNURLED* SOCKET HEAD CAP SCREW**

Yes, these "UNBRAKO" Knurled Socket Head Cap Screws are real time savers because, the knurled head provides a "sure grip" even for oily, greasy fingers; therefore, the "UNBRAKO" can be screwed-in faster and farther before it becomes necessary to use a wrench. And, carefully controlled processing during manufacture assures Strength and Accuracy.

Knurling of Socket Screws originated with "Unbrako" in 1934.

Kits, Pats. Pend

"HALLOWELL" KEY KIT

You can't tighten or loosen socket screws without a hex socket wrench, so why not get our No. 25 and No. 50 "HALLOWELL" Hollow Handle Key Kit which contains almost all hex bits.

Write for the name and address of your nearest "UNBRAKO" Industrial Distributor and your copy of the "UNBRAKO" Catalog.

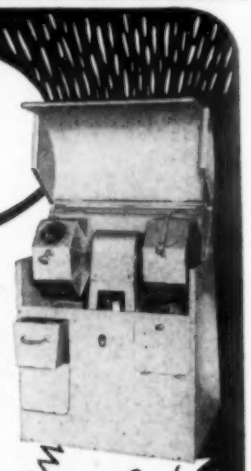
OVER 46 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNSYLVANIA, BOX 581
CHICAGO • DETROIT • ST. LOUIS • SAN FRANCISCO

Mention Item NED-3165 when writing

NEW IN PRECISION BARREL FINISHING



ALMCO Supersheen
MODEL DBO-1

FOR A BETTER FINISH FASTER ON SMALL PRODUCTION RUNS

The newest addition to America's Most Versatile Line of Precision Barrel Finishing Equipment. Ideal for small shops, small production runs, experimental processing. All welded steel construction. Sturdily built to take it! Easily loaded and *mechanical* unloading and separating mean *lower* operating costs. *Removable* watertight drawers with drain plugs eliminate need of drainage facilities. Safety hood and chain guard assures *maximum* safety. Its the last word in compactness, advanced precision barrel design. Write today for full DBO-1 details.

Other models available up to barrel size 60" x 30". Sample processing done without obligation.

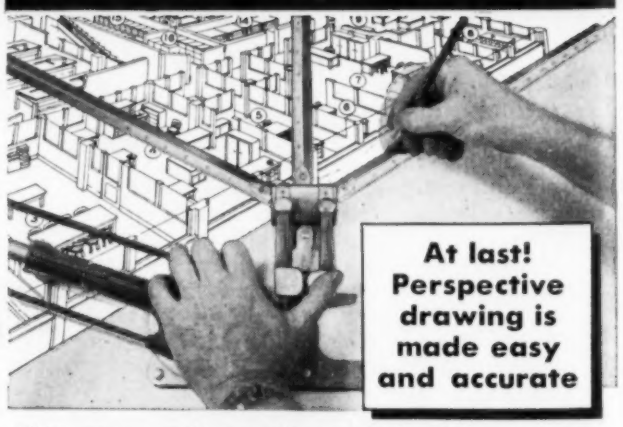
Cuts Costs up to 90%

ONLY $490.00
F. O. B.
ALBERT LEA
PROMPT DELIVERY

ALMCO Supersheen
DIVISION OF ALBERT LEA, QUEEN STOVE WORKS, INC. MINN., MANUFACTURERS

Mention Item NED-3167 when writing

BRUNING Perspect-O-Metric



This new machine makes complicated perspective drawings easy. It guides your pencil in relation to proper vanishing points. Automatically realigns itself for every change of position. Always accurate.

The precision scales are specially graduated to show relative sizes. Permits bird's-eye views, exploded views, and isometric drawings too, with ease. The "Perspect-O-Metric" quickly attaches to any standard drafting machine. Also available for parallel ruling straightedge.

Send Today for Bulletin A-1054, which describes this versatile machine in full detail. There is no obligation.

Charles Bruning Company, Inc.
4730-40 Montrose Avenue, Chicago 41, Illinois

EVERYTHING FOR THE ENGINEER AND DRAFTSMAN

Mention Item NED-3168 when writing

INFRARED
gives quick, economical heat

IN big ovens or small portable equipment, G-E infrared lamps provide quick, clean, economical heat that solves a multitude of drying and baking jobs. General Electric makes all types of infrared lamps—from 125 to 1,000 watts. For complete information, get your free copy of Folder Y-689. Write General Electric, Nela Park, Div. 166-NED 5-49, Cleveland 12, Ohio.

G-E LAMPS

GENERAL ELECTRIC

Mention Item NED-3169 when writing

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO
LAMP CHANGERS
Easy Does It!

Practical for Ceilings, Side Walls, Electric Signs, etc.

Head adjusts to any angle.

Designed to remove and replace lamp bulbs in high and out of way places . . . Works like human hands on the end of a pole. Practical, time saving, prevents injuries. Handles lamps up to 500 watt; pole lengths 6′, 12′ and 18′.

WRITE FOR BULLETIN L-59

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY

2807 N. FOURTH STREET · PHILADELPHIA 33, PA.

Mention Item NED-3170 when writing

LINK-BELT Car Spotter

MOVES cars - barges - trucks - steel

On dozens of heavy, back-breaking jobs that formerly required gangs of men, now ONE MAN with a Link-Belt Electric Car Spotter does the work at a saving in time, money and labor. Pulls 5,000 or 10,000 lbs. at 45 ft. per minute. Stationary or portable styles; integral or separate motors. Write for folder showing how others are using it.

11,470

LINK-BELT COMPANY
2410 W. 18th Street, Chicago 8, Illinois

SEND NOW for Book No. 1992-A

Mention Item NED-3171 when writing

CIRCULAR SAWS

Of through-bolt construction with cast aluminum frame, Hi-Speed Saws will cut through metal, clay and cement products in addition to wood through use of interchangeable blades. These portable electric saws are available in three sizes: Nos. 944, 964 and 974, with 7½, 8¼ and 9½-inch blades and 2-7/16, 2-13/16 and 3¼-inch capacities respectively. Helical gears are used, and all rotating parts including automatic telescoping safety guard turn on ball bearings. Depth of cut is easily adjusted, and angle of cut is adjustable from 35 degrees to straight 90-degree cut. Operator has clear vision of cutting line which is kept clean by air blast from motor's exhaust. All units are furnished with metal carrying case, rip fence and 15 feet of cord. 110-volt motor operates on alternating or direct current. Made by **Chicago Pneumatic Tool Co.**, Dept. A, 6 East 44th St., New York 17, N. Y.

Mention Item NED-3172 when writing

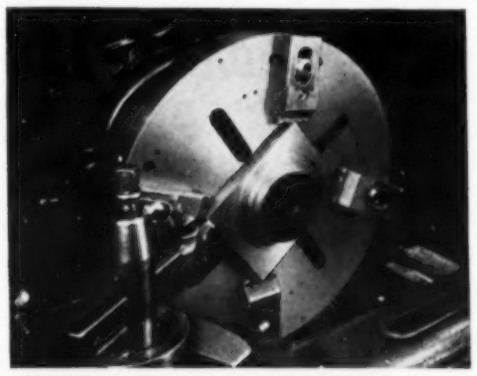
LAPPING COMPOUND

Available in ten different grits ranging from very coarse to miscroscopic fine, improved Timecutter lapping compound cuts hardened steel at relatively rapid rate. It employs oil vehicle to carry silicon carbide so that abrasive grains are held at points of contact to assure maximum grinding. Compound washes off in sludge which carries away completely all abrasive material. Made by **Timesaver Products Co.**, 546 W. Washington Blvd., Chicago 6, Ill.

Mention Item NED-3173 when writing

JAW CLAMPS

Usable in machining operations on lathes, planers, milling machines, drill presses and other machine tools, jaw clamps are designed to hold work piece securely against



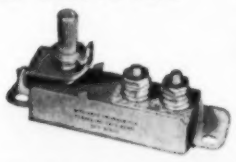
face plate or table of machine. Since no part of clamp is higher than 15/16-inch, it is possible to pass over whole clamp when it is holding work 1-inch high or more. Full surface of work ⅜-inch high or over can be machined because jaw is only 23/64-inch thick. Clamps are made of hardened tool steel and are tested for 2-ton down pressure. Made by **J & S Tool Co.**, 477A Main St., East Orange, N. J.

Mention Item NED-3174 when writing

Put a PLUS In Your Product with the FENWAL Appliance Thermostat

HIGH SENSITIVITY . . . LOW COST . . . WIDE TEMPERATURE RANGE

If *your* product's performance depends on temperature control, depend on the Fenwal Appliance THERMOSWITCH* Control to keep it at peak. Compact, rugged, yet sensitive over a broad temperature range, this accurate, long-lasting thermostat assures the customer-satisfaction that builds good will — *and sales.* Write for data.



Designed to give accurate operation at required temperatures for long periods of time in such appliances as: flatirons, automatic ironers, waffle irons, sterilizers, dairy water heaters, hot plates, etc.

FENWAL, INCORPORATED
31 Pleasant St., Ashland, Mass.

Fenwal

APPLIANCE-TYPE *

THERMOSWITCH

SENSITIVE . . . *but only to heat*

*Reg. U. S. Pat. Off.

Mention Item NED-3175 when writing

PROTECT THREADS and PARTS with WEDGE Protectors

They will save you MONEY!

HEAVY PROTECTOR

LIGHT GAUGE PROTECTOR

The small cost of protecting threads or small parts with WEDGE Protectors is more than offset by the money saved. They cost so little and save so much. Many valuable parts must be scrapped because they are damaged in process. We make all types of plugs and caps for protecting conduit, pipe, tube, tap or plain openings, or valves, while in process or transit within departments. Find out what WEDGE Protectors will save you.

Write for Further Information

WEDGE PROTECTORS, INC.
3973 Jennings Road Cleveland 9, Ohio

Use WEDGE Chill Rings-Thread Protectors

Mention Item NED-3176 when writing

When you need copies... you need OZALID!

Duplicate in seconds! Put your original against a sheet of Ozalid material, feed into the Ozalid print-making machine. An intermediate step is necessary only with absolutely opaque originals.

Change in seconds! Make alterations or additions on your translucent Ozaprint . . . transfer title blocks or even whole sections . . . then you can use the changed print as a master!

Combine in seconds! Make prints of your material on transparent Ozalid film, overlay them on a sheet of Ozalid material (paper, cloth, foil, or film), feed into the Ozalid machine for a composite print in 25 seconds!

Replace in seconds! Use any translucent Ozalid print for a duplicate master. Make shop or field prints on Ozaplastic. Clean with a damp cloth.

Color Code in seconds! Ozalid materials offer black, blue, red, or sepia lines on white or tinted backgrounds. Light, standard, and heavyweight papers are available for any job.

Anyone can change prints with Ozalid *in seconds!* Any length and almost any width. All Ozaprints are made in the same manner—all are delivered dry, positive, ready to use.

Write for a FREE booklet with the full Ozalid story. Or consult your classified directory for local distributor.

Don't copy... use OZALID!

Ozalid, Johnson City, N. Y. Dept. 70

A Division of General Aniline & Film Corp.
"From Research to Reality"

Mention Item NED-3177 when writing

On the Production Floor... and Sales Floor, too!

GOOD SHOW IN PRODUCTION: Assembly rolls along smoothly in high gear, with fastenings made by American Phillips Screws that turn up straight and tight *every time* . . . with never a slip or a slash to spoil costly enameled surfaces. *Time savings run as high as 50%.*

GOOD SHOW IN SALES: The modern mark of American Phillips' cornerless, crossed recess is one of the quality insignia of top cars and trucks . . . a feature looked for and recognized by customers.

AMERICAN SCREW COMPANY, Providence 1, R. I.
Chicago 11, 589 E. Illinois St., Detroit 2, 502 Stephenson Bldg.

AMERICAN PHILLIPS Screws

Mention Item NED-3180 when writing

HAMMER DRILL ATTACHMENT

Any ¼-inch portable electric drill can be converted into an electric hammer by inserting this Hamer-Dril attachment in chuck. Though particularly designed to drill small holes in masonry, device will handle drills up to ⅝-inch in diameter. Unit can be used in drill press or with flexible shaft and is suitable for vibrating, caulking, sheet metal straightening and light chipping operations. Tool socket has 9/16-inch hexagon opening, and tool measures 6½ x 1⅛ inches overall. Permanently lubricated and precision made, unit is designed for continuous industrial service. Made by **Hamer-Dril Co.**, Dept. NED-1, Box 158, Planetarium Sta., New York 24, N. Y.

Mention Item NED-3182 when writing

AIR CONTROL VALVE

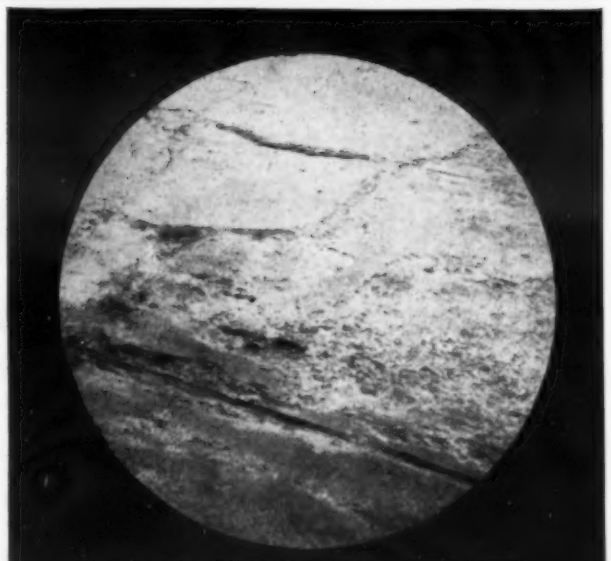
Of packless plug construction, model No. 50 three-position double four-way air control valve for operating two double-acting cylinders can be used on many sequencing applications, such as those requiring chucking cylinder to operate in sequence with tailstock cylinder. Brass taper plug is precision ground and lapped into high tensile cast-iron body to assure perfect seal. Valve can be foot mounted on any flat surface on machine with operating handle in vertical or horizontal position. All working parts of valve can be removed without disconnecting air pipe lines. Two cylinder ports and one exhaust port are grouped on one side of valve with two cylinder ports and one intake port on opposite side. All six ports are tapped for ¼-inch pipe. Made by **Logansport Machine Co.**, 908 Center Ave., Logansport, Ind.

Mention Item NED-3183 when writing

INDUSTRIAL FILTERS

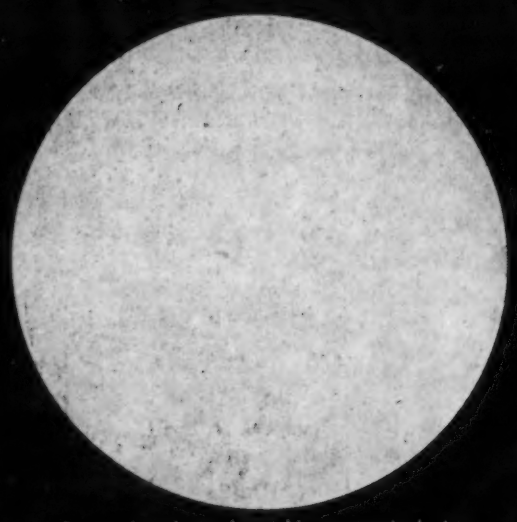
Carbon, pipe scale, water, oil and various solids ranging from visible to microscopic in size can be removed from light liquids and gases by these industrial filters which employ Mandler diatomaceous filter candles. Each filter contains one or more candles which consist of opal or colloidal silica having high degree of absorption. Filters can be removed easily and cleaned for reuse and are available in complete range of sizes and densities. Wing nuts simplify replacement or cleaning of porous filter media without disturbing pipe connections. Liquid and sludge can be blown out of sump through drain fitting. Made by **Allen Industrial Filter Co.**, Dept. AIF 25 S. St. Clair St., Toledo, O.

Mention Item NED-3184 when writing



Is this the picture of your flooring? No matter how badly worn or rutted, any floor can quickly and easily be resurfaced better than the original with Texas Jack Resurfacer.

MAKE US PROVE IT



Twenty-four hours later this unretouched picture shows how Texas Jack Resurfaced the same floor ready for immediate use.

Texas Jack Resurfacer will stand up under the most punishing conditions. The best news is the easy installation! Your own men can put it in—no chopping or chipping required. And it comes to you complete. Nothing else to buy! For use indoors or out; it will not shrink, crack or crumble. The more traffic Texas Jack Resurfacer gets the stronger it becomes. Texas Jack has been used successfully by leading industries, railroads, and public utilities. Investigate! and we will show you we can prove it! Send for our free bulletin.

FLASH-STONE CO., Inc.
3723 PULASKI AVENUE, PHILA. 40, PA.

Mention Item NED-3181 when writing

The OFFICE VALET

LOCKERETTE
—Combines the best features of both lockers and coat racks

Improves health and morale —lowers absenteeism.

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.

Write for Bulletin No. OL 8

VOGEL-PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

Mention Item NED-3185 when writing

Torit Dust Collectors, by capturing abrasive dusts, prevent damage to precision equipment and finished parts.

TORIT Dust Collectors are self-contained units that trap dust from a wide variety of machines, and recirculate the cleaned air. Compactly designed, they occupy little space and use a minimum of piping.

TORIT Dust Collectors range in size from ⅓ HP to 5HP. They fit all standard polishing, cut-off and grinding machines, and are easily adapted to special equipment or unusual production set ups.

TORIT Dust Collectors are moderately priced and exceptionally economical to operate. Standard models are available for immediate delivery. For details and the latest TORIT catalog write:

TORIT MANUFACTURING CO. 298 Walnut Street St. Paul 2, Minn.

Mention Item NED-3186 when writing

Specify SILICONE RUBBER PARTS

FOR EXTREME HIGH AND LOW TEMPERATURE APPLICATIONS

SILICONE RUBBER will withstand temperatures from -160 to more than 500 degrees F. It does not become brittle and will not crack after long exposure to air, ultra-violet rays or ozone.

SILICONE RUBBER PARTS will resist lubricating oils and many chemicals. They are suitable for application in steam generators, gas cylinders, jet and conventional aircraft engines, electrical heating apparatus, electric motors, transformers, die casting machines, refrigeration and air conditioning equipment, and industrial ovens.

SPECIFY this new Dow Corning Silicone. It can be extruded or molded to your specifications Silicone rubber is recommended for gaskets, diaphragms, grommets, washers, seals, packings, tubing and many other products.

WRITE FOR CATALOG TODAY

STALWART RUBBER CO.
5151 NORTHFIELD ROAD
BEDFORD, OHIO

Mention Item NED-3187 when writing

need fast fastening? send for JOE RAMSETTER!

When you're up against time or costs on work requiring fastening in steel, concrete or masonry, give the job to JOE RAMSETTER!

He'll set RAMSET FASTENING pins or studs at a fast pace, up to 50 an hour. Sizes and types up to 6" long and ⅝" in diameter, like those illustrated, are set instantly, easily, tightly. Conduit, lighting, pipe hangers, sprinklers, air conditioning, or any work requiring such fastening, moves along swiftly when it's done the RAMSET way.

No drilling, chipping or plugging! Light, hand-portable RAMSET TOOLS require no power or air lines—they're self-powered. In 30 minutes, we teach your own men to cut your costs and get your work finished faster than you ever imagined.

Send for details on the cost-saving and time-reducing features of RAMSET FASTENING SYSTEM for a few fasteners or for thousands.

STEMCO CORPORATION • Cleveland 16 (Rocky River), O.

In Canada:
Globe Machine Tools
Batawa, Ont.

Ramset FASTENING SYSTEM

Mention Item NED-3188 when writing

Extra Protection
AGAINST HIGH MOTOR COSTS

3 Great Protective Features!

- Heavy cast iron frame protects top, bottom, sides, ends. Resists corrosion, distortion, physical abuse.
- Ball bearings pre-lubricated at factory. Need no attention for years. Protected against inadequate maintenance.
- Multiple-dipped and multiple-baked stator plus inter-phase insulation protect against electrical breakdown.

GET FULL DETAILS on the extra-protective features of *Safety-Circle* motors. Ask your A-C Authorized Dealer or Sales Office or write for Bulletin 51B6210. Sizes 1 to 20 hp. A-2707

ALLIS-CHALMERS *"Safety-Circle"* DRIP-PROOF MOTORS

Safety-Circle is an Allis-Chalmers trademark

Allis-Chalmers, 918A So. 70 St., Milwaukee, Wis.

ALLIS-CHALMERS A-C

▲ Mention Item NED-3189 when writing ▲

BUT *Duraladd* TRADEMARK

ALUMINUM *Lifetime* **LADDERS**

All features "Patent Applied For."

ARE BOTH EASY-TO-HANDLE AND SAFE

Here's the aluminum ladder more and more progressive firms are using. It's far safer than old-fashioned wooden ladders, and 1/3 as heavy. It's as strong as structural steel. It has many safety features not found in other ladders.

It's infinitely easier to handle. One man can easily lift and spot even the 50 foot extension ladder. And, it is lower in cost!

It will pay you in greater safety and lower maintenance costs to standardize on the Duraladd aluminum ladder. Available as extension, 6′ to 75′, as well as straight ladders and staging. Write for descriptive literature and prices NOW!

SPECIAL LADDER INQUIRIES SOLICITED

Dealers in Principal Cities

DURALADD PRODUCTS CORP.

DUNELLEN, NEW JERSEY

▲ Mention Item NED-3190 when writing ▲

JIFFY *ALL METAL* **CABINET**

FOR SMALL PARTS STORAGE OR ASSEMBLY BENCH WORK

32 DRAWER UNIT $8.95

POSTAGE PAID

64 DRAWER UNIT $15.95

with RUST-PROOF ALUMINUM DRAWERS

NOW, WITH INDEX CARD HOLDER

APPROXIMATE SIZES
DRAWER
1¼″ Deep
2¼″ Wide
6″ Long
32 DRAWER UNIT
6″ Deep
12¾″ Wide
15¼″ High
64 DRAWER UNIT
6″ Deep
25½″ Wide
15¼″ High

Spot welded steel cabinet, metal flange drawer guides, enamel finish and solid one-piece aluminum drawers in natural satin finish. The first multiple drawer (32 or 64 drawer units) metal cabinet for small parts storage or assembly bench work at such a low cost. Order now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

KAYTEE PRODUCTS

DEPT • BOX 588 • CANTON, OHIO

▲ Mention Item NED-3191 when writing ▲

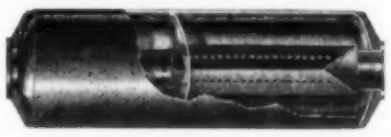
OIL-FILM TYPE BEARING

In Sandy Hill Cleveland type oil film bearings, film of oil under constant pressure carries shaft to eliminate metallic contact. Bearing consists of cast iron base and caps, split horizontally and lined with bearing babbitt. Base forms ample capacity oil reservoir from which oil is taken by split oil collar clamped on shaft. Oil is taken from collar by babbitt oil wiper which distributes oil along entire length of journals. Bottom bearing liners are chamfered to assist centrifugal force of shaft in carrying oil under and around shaft. Built-in recirculation system allows oil to return to reservoir upon completion of circuit. Because oiling collar operates in babbitted recess in bearing, it acts as thrust collar also. Sizes are available for $1\frac{3}{16}$ to 10-inch shafts in rigid pillow block, water cooled pillow block and ball-and-socket types. Accessories include wedge and screw adjusting base plates and floor stands; sling, drop and post hangers; and pedestals. Made by **Sandy Hill Iron & Brass Works,** Hudson Falls, N. Y.

▲ Mention Item NED-3192 when writing ▲

EXHAUST SNUBBERS

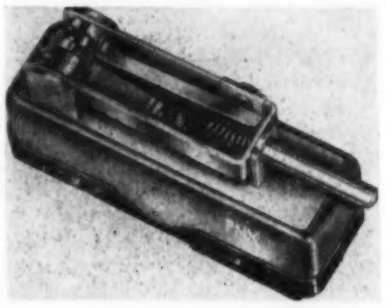
Designed to reduce noise from engine exhausts and vacuum pump discharges to noise level of surrounding industrial area, series SDG heavy-duty portable exhaust snubbers can be used for many applications in petroleum, chemical and industrial fields. They consist of heavy double shell with internal reinforcements, flanged dome-type heads to provide added support and heavy gussets at each end to maintain proper alignment. They can be obtained in pipe sizes from 5 to 24 inches. Made by **Burgess-Manning Co.,** 749 E. Park Ave., Libertyville, Ill.



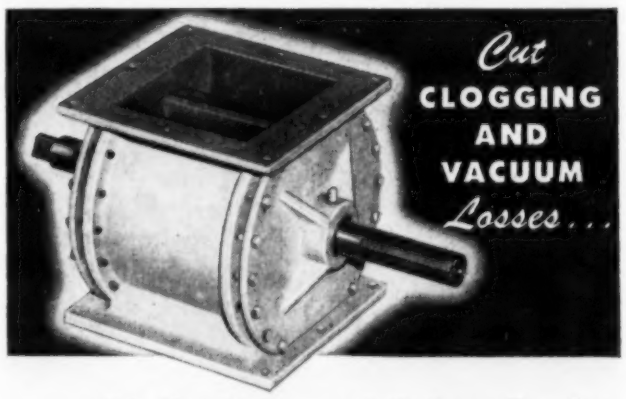
▲ Mention Item NED-3193 when writing ▲

SWITCH ADAPTER PLATE

Consisting of ratchet-driven rotary detent cam which alternately presses and releases operating button of switch when drive plunger is pushed, style P Adaptaplate provides single-button maintained contact control with any Unimax metal-cased snap-acting switch. One stroke operates switch, and second releases it. Since all switches in line have contacts for double-throw single-pole switching, any desired operating sequence can be obtained with adapter plate. Made by **Unimax Switch Corp.,** Room 1510, 460 W. 34th St., New York 1, N. Y.



▲ Mention Item NED-3194 when writing ▲



... with the Beaumont Rotary Feeder

A renewable brass strip recently added to the Beaumont Rotary Feeder:—seals the upper portion of the rotor; prevents fine chemicals, soot or ash from collecting between rotor and sideplates; protects bearings; eliminates clogging; and greatly reduces vacuum or pressure losses in the system. Sizes range from 4 to 12 inches, or larger if desired.

In chemical as well as food, power and mineral fields—Beaumont Rotary Feeders are ideal for fine material handling. For coarse or lumpy materials, Beaumont manufactures other types of feeders and gates. Write for complete information to:

BEAUMONT BIRCH COMPANY

1514 RACE STREET • PHILADELPHIA 2, PA.

Designers Manufacturers Erectors

▲ Mention Item NED-3195 when writing ▲

$HORT CUT$ BY CHIEF BLACKHAWK

Here's a Quick Answer to Many Testing Problems

LOW-COST GAUGES CONVERT BLACKHAWK JACKS INTO TEST INSTRUMENTS

HAPPY solution to many tricky laboratory, production or construction problems is found with a Gauge-equipped Blackhawk Hydraulic Jack.

Such a compact, low-cost, simple device frequently replaces larger, costly and time-taking contrivances for weighing and testing tonnages ranging from a few thousand lbs. up to 200,000 lbs.

A Few of the Uses

Some of the ingenious applications of Gauge-Equipped Blackhawk Hydraulics include:

- Test breaking point of materials
- Check weights of large, cumbersome members
- Press plastics, foods, etc.
- Press parts together with cautionary pre-determined pressure
- Test load-bearing qualities of soil
- Sink piling to pre-determined loads
- Draw cables to specified tension

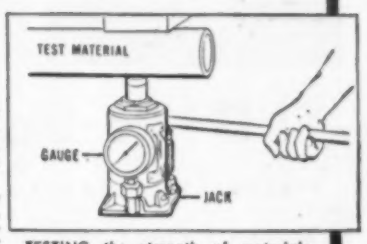
Completely Cataloged

There's nothing complicated about Blackhawk Gauge-Equipped Hydraulic Jacks. Order from your Industrial Supply Distributor or write us for literature.

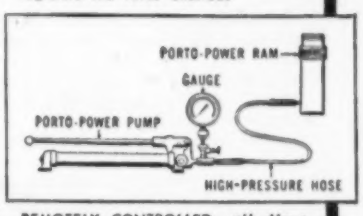
A Product of

BLACKHAWK MFG. CO.

Dept. J1459, Milwaukee 1, Wis.



TESTING the strength of materials. The gauge mounts into a standard Blackhawk Hydraulic Hand Jack and registers the force exerted.



REMOTELY-CONTROLLED, all-directional "Porto-Power" Jacks can also be used with gauges. These jacks push, pull, press, bend, spread, and clamp. Gauges can also measure internal fluid pressure in P.S.I.

BLACKHAWK

HYDRAULIC EQUIPMENT • WRENCHES

▲ Mention Item NED-3196 when writing ▲

OHMITE

HIGH-CURRENT TAP SWITCHES

Here's a line of non-shorting, rotary tap switches that combine high current capacity and a large number of taps with unusual compactness. Their sturdy, one-piece ceramic bodies provide permanent insulation, as the ceramic is not affected by arcing. The heavy silver-to-silver contacts have a self-cleaning action, and (except for the 10-amp unit) are totally enclosed and protected. Switch shafts are electrically dead—insulated by strong ceramic hubs. A positive cam-and-roller mechanism provides "slow-break, quick-make" action—particularly designed for alternating current use. Two or three of these Ohmite switches can be mounted in tandem to form multiple-pole assemblies.

Write on Company Letterhead for your copy of Ohmite Catalog and Engineering Manual No. 40

OHMITE MANUFACTURING CO.

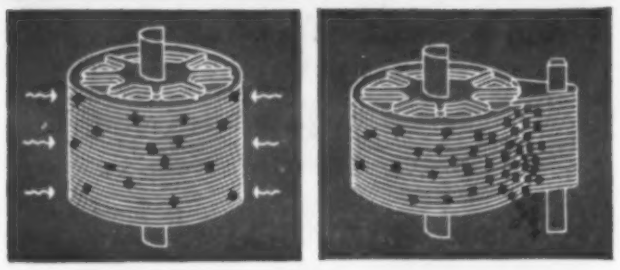
4843 Flournoy St., Chicago 44, Ill.

Be Right with

OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

▲ Mention Item NED-3197 when writing ▲



Disc Jockey

"KEEPS IT CLEAN" — CONTINUOUSLY

There's no stopping the Cuno AUTO-KLEAN fluid filter—you don't *have* to. It gives you *continuous* cleaning of full flow in a compact design no larger than usual partial-flow types.

Metal discs stop all solids larger than specified* spacing... turning of discs past cleaner blades (periodically by hand or continuously by motor) combs out collected solids, and cleans cartridge without stopping flow.

Widely used on lubricating, hydraulic, and fuel oils, water, and other industrial fluids.

*Available spacings from .0035 in. to 062 in.

FREE BULLETIN

Address Cuno Engineering Corp., 7010 South Vine Street, Meriden, Conn.

CUNO

Fluid Conditioning

Removes More Sizes of Solids from More Types of Fluids

▲ Mention Item NED-3198 when writing ▲

2 Handfuls of Steel Stapled Protection and Service!

AO 1201 Hand Pad. This popular hand guard of chrome-tanned cowhide leather features a palm reinforcing patch which is steel sewed for extra wear. Open back. Fully protected thumb. It is the hand pad to use for handling steel scrap and rough steel. When worn over gloves it greatly adds to glove life.

AO 5X138 Glove. Fingers and thumb of this chrome-tanned cowhide glove hold up longer under heavy wear. The index finger is stapled from top of finger to crotch of thumb—second, third and fourth fingers are stapled from finger tips to palm. Steel stapled leather thumb patch. Steel stitched seams and 4" cuff. It's the steel mill favorite for use on flying shears and handling rough scrap.

Your nearest AO Safety Products Representative can supply you.

American Optical Company
Safety Products Division
SOUTHBRIDGE, MASSACHUSETTS
BRANCHES IN PRINCIPAL CITIES

▲ Mention Item NED-3199 when writing ▲

7¢ A DAY to HEAR WELL

A SMALL PRICE to pay to hear clearly . . . day after day . . . in noisy locations . . . where accuracy of hearing is essential in making vital telephone decisions. This is possible in your plant with a Burgess-Manning Acousti-Booth.

Burgess-Manning Model 211 Acousti-Booth has thick, sound-absorbent walls that soak up noise. Airy . . . easily moved . . . compact . . . of sturdy construction . . . it provides a quiet spot for telephoning. Conversations are clear . . . "private." Ideal, also, for noisy, congested locations in stores, hotels, and airport terminals.

ORDER Burgess-Manning MODEL 211 Booth today

"Scout" Model 602 is ideal for noisy, congested locations in busy factories. Rugged, all-steel construction.

MAIL COUPON FOR FREE BULLETIN

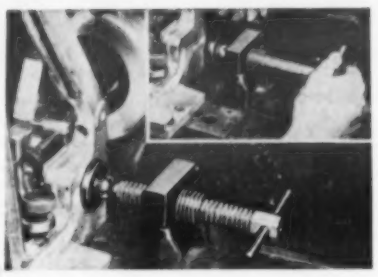
Burgess-Manning Company
743-C East Park Avenue, Libertyville, Illinois

Please send illustrated booklet describing the Burgess-Manning Model 211 Acousti-Booth.

NAME _____
FIRM NAME _____
STREET-CITY _____

▲ Mention Item NED-3200 when writing ▲

QUICK-ACTING CLAMP UNITS



Of positive quick-acting type, Bar-Lok work-holding units can be used in jigs and fixtures and for positioning in machining, welding, brazing and woodworking as well as wide range of assembly operations. Units are available in three series to meet various pressure requirements and to provide range of lengths up to 12 inches. Swivel or T-handles and square, round or flexible feet can be supplied. All parts are cadmium plated hardened steel. To clamp work, radially grooved square pressure bar is pushed against work and is then turned clockwise so as to apply screw pressure to clamp work. When bar is turned to left, screw pressure is released and bar is free to slide. Made by **Mechanics Engineering Co.**, Box 243, Jackson, Mich.

▲ Mention Item NED-3201 when writing ▲

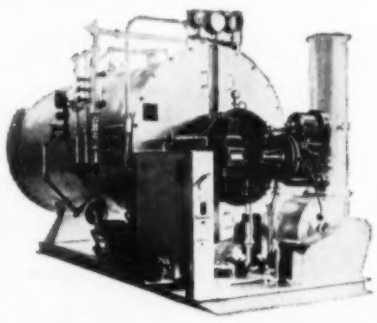
RECORDING TIME CLOCK

Improved in design and appearance, model 3801 time recorder features moving parts of hardened materials that are treated to prevent rust, Oilite bearings and ease of servicing. Designed as all-purpose industrial unit, it will record employee arrival and departure time as well as time spent on individual operations. Made by **Lathem Time Recorder Co.**, 70 Third St. N.W., Atlanta, Ga.

▲ Mention Item NED-3202 when writing ▲

PACKAGED STEAM GENERATOR

Offering fully automatic operation from high to low fire with all grades of commercial gas and oils including Bunker C and No. 6 oil, packaged unit steam generators range in size from 20 to 500 horsepower at pressures from 15 to 200 pounds per square inch. They can be changed from gas to oil firing, or vice-versa, in matter of minutes. Change-over from oil to gas in units employing horizontal rotary oil burner is accomplished by swinging oil burner open and inserting primary gas burner in normal oil burning firing port. Primary burner is adjusted to handle 25 to 30 per cent of total maximum heat input and is supplemented by main gas burner in form of annular ring which is fixed inside furnace extension. Made by **Preferred Utilities Mfg. Corp.**, 1860 Broadway, New York 23, N. Y.



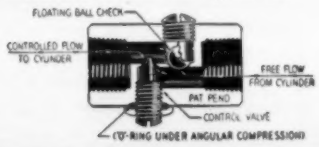
▲ Mention Item NED-3203 when writing ▲

FLOW CONTROL VALVE for Cylinder Speed ADJUSTMENTS over a WIDE RANGE IN AIR OR HYDRAULIC USE

Compact Design Simplifies and Consolidates Piping Arrangements.

The Pneu-Trol Flow Control Valve combines an efficient Stainless Steel FLOATING BALL CHECK which opens and closes at the *slightest* change in flow direction, with a Vernier Type VARIABLE NEEDLE ORIFICE adjustment in a compact control which has widened air and hydraulic cylinder application by providing precise control of cylinder action. Body made from bar stock in brass (up to 1000 psi.) or steel (for higher pressures). Other parts are Stainless. Available in 4 sizes: 1/8", 1/4", 3/8" and 1/2".

Attractive prices—immediate delivery. Write for illustrated circular and price list.



WRITE

Pneu-Trol Devices, Inc.
3122 N. California Ave. Chicago 18, Ill.

▲ Mention Item NED-3204 when writing ▲

UNITED Electric Controls Company

TYPE R PRESSURE SWITCH FOR

Standard & Special Thermostats & Pressure Switches

LONG LIVED PRECISE CONTROL OF RAPID OPERATING CYCLES WITH WIDE PRESSURE CHANGES

The Type R is an adjustable Pressure Switch built to operate precisely for years under the tough operating conditions encountered on industrial applications. It may be used to control the pressure of air, gas and liquids non-injurious to brass in tanks, hydraulic systems and fuel or lube oil systems.

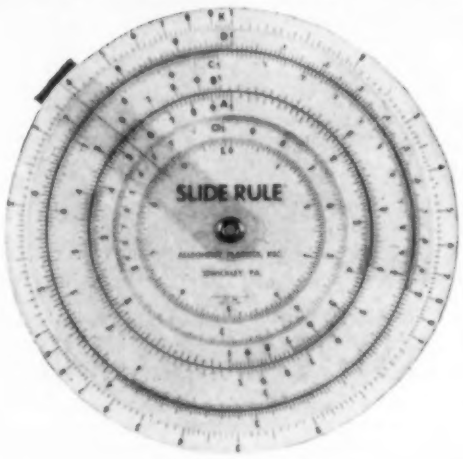
The Type R is furnished with a die-cast aluminum case with outside adjustment knob pointer and an accurately calibrated dial marked in steps of 5 psi over ranges of 0 to 50 psi and 10 to 90 psi. Special calibrated ranges of 80 psi between the limits of 20 to 350 psi are also available. The standard on-off differentials offered are 2 psi fixed, 5 psi fixed, 5–45 psi adjustable and 2–9 psi adjustable. For complete details write for bulletin.

WRITE FOR COMPLETE DETAILS TODAY
UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

▲ Mention Item NED-3205 when writing ▲

Circular Slide Rule

Handy—easy to use—easy to carry



Actual size, 4¼" dia.

- Performs the following functions: Multiplication, Division, Roots and Powers, Logarithms, Reciprocals and Proportions.
- Circular Decimal Equivalent Table on Reverse. Graduations protected by over laminated film.
- Ideal for a distinctive advertising "give away." Quantity prices for rules with your firm's name and sales message.

With complete instructions, post paid, only **$1.00**

ALLEGHENY PLASTICS, INC.
221 Chestnut Road Sewickley, Pa.

▲ Mention Item NED-3206 when writing ▲

PYRA-SHELL *Transparent* UTILITY BOXES

Light-weight, unusually sturdy Pyra-Shell Transparent Utility Boxes are available in a complete range of sizes—from 3" x 2" x ¾" to 13" x 6¾" x 1¾"—and in a wide choice of compartment arrangements. Ideal for small tools, assembly, storage, sales kits, service kits. If, with all this choice, there is no standard box which meets your exact requirements, special boxes can be made in small quantities at reasonable cost.

Write for Information

SHOE FORM CO. INC.
24 DeWitt St. Auburn, N. Y.

▲ Mention Item NED-3207 when writing ▲

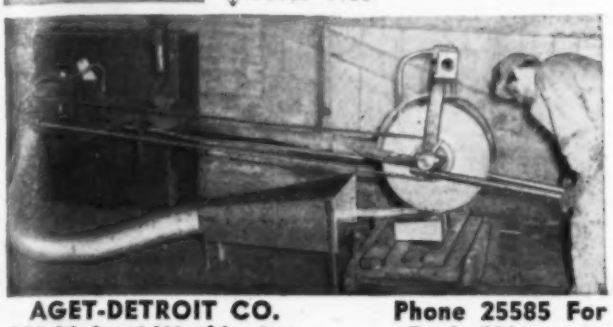
STOP DUSTS

. . . . with low cost, unit type DUSTKOPS (250 to 3600 cfm). There is a DUSTKOP to match every dust source.

Send for complete information now. To save time, give us a description of the dust trouble. No obligation.

←MODEL 335

↓MODEL 1150



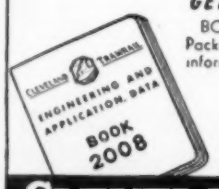
AGET-DETROIT CO.
201 Main at Washington
Ann Arbor, Michigan

Phone 25585 For Rush Shipment From Stock

▲ Mention Item NED-3208 when writing ▲

Heavy molds are handled smoothly and carefully with a simple inexpensive hand-propelled crane with extended hand-chain wheel on the hoist.

GET THIS BOOK! BOOK No. 2008 Packed with valuable information . .



CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6614 East 285th St. Wickliffe, Ohio

CLEVELAND TRAMRAIL

▲ Mention Item NED-3209 when writing ▲

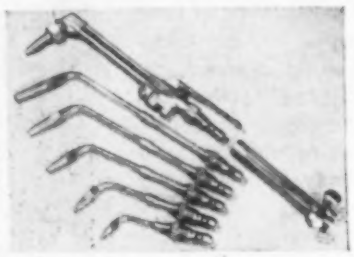
MATERIALS HANDLING EQUIPMENT TO FIT YOUR SPECIFIC NEEDS

FAB-WELD will engineer, design and build special welded steel equipment to achieve for you the greatest saving in time, labor, space and protection of your products in transit. Representatives in all principal cities. Address our Materials Handling Division for full details.

FAB-WELD CORPORATION
MEMBER
SALMON & PICKWICK • PHILADELPHIA 34, PA.

▲ Mention Item NED-3210 when writing ▲

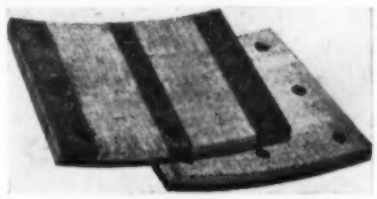
WELDING & CUTTING TORCHES



Incorporation of Flo-Trol diaphragm and seal rings in these oxy-acetylene welding and cutting torches channels each gas through its proper passage and eliminates danger of premixing, preignition and back-firing. This feature also permits tips to be changed quickly and seated in torch body with fingertip pressure on tip nuts. Welding tips or cutting assembly can be swiveled in any position even with flame lighted. Line consists of Lifelong series for light, medium and heavy duty welding; Midline series for light and medium welding in manufacturing plants and automotive shops; and Airline torches for light metal welding and cutting of all types. Made by **Smith Welding Equipment Corp.**, 2628 Fourth St. S. E., Minneapolis 14, Minn.

▲ Mention Item NED-3211 when writing ▲

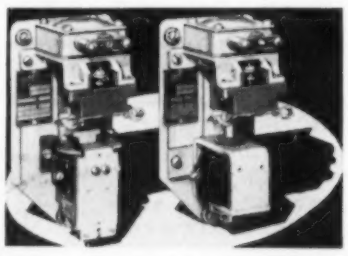
BRAKE BLOCKS



Originally developed to meet requirements of flame hardened drums, MW brake blocks are combination of two main types of asbestos friction materials integrally molded into unified blocks. Blocks are engineered for specific applications. Variation in composition and proportions of woven and molded asbestos permits adjustment of characteristics to type of service. Quick positive action of woven type can be tempered with smooth non-grabbing action of molded type to provide optimum friction stability. Made by **Gatke Corp.**, 228 N. La Salle St., Chicago 1, Ill.

▲ Mention Item NED-3212 when writing ▲

PNEUMATIC TIMER



Having timing period adjustable from 0.2-second to 3 minutes, class 9050 direct current pneumatic timer is useful for timing motor acceleration, machine sequences, process industry operations, resistance welds and numerous similar functions. It is accurate with less than 10 per cent variation from mean timing period and is unaffected by normal changes in voltage and ambient temperature. Timing period is set quickly by knurled knob or micrometer dial. Unit is normally open or closed, has snap action contacts and is contained in arc-resistant melamine case. Electrical interlocks operated by magnet which actuates timing mechanism frequently eliminate need for additional switching relays, and timer can be arranged for time delay after energization or de-energization of magnet. Made by **Square D Co.**, 4041 N. Richards St., Milwaukee 12, Wis.

▲ Mention Item NED-3213 when writing ▲

NEW

Logan 11" LATHES
1" COLLET CAPACITY
24" AND 36" BETWEEN CENTERS

Specially developed for industry, shops and schools, these 11" Logan Lathes have new, greater capacity plus Logan advanced design and precision construction. Their low price range in the field of lathes with comparable specifications is the first of many economies they offer.

For LARGER WORK . . . the new Logan Lathes have 11" swing, 1" draw-in collet capacity, 1⅛" spindle hole, and center distances of 24" and 36".

For ACCURACY . . . Ball bearing spindle mounting assures sustained accuracy at any speed from 45 to 1500 rpm without bearing adjustment. Two V-ways and two flat ways of the rugged beds are precision ground to a tolerance of .0005" along lineal capacity of lathe. Total spindle run-out 12" from bearing held to within .0005".

For LOW COST . . . Rugged overall construction keeps maintenance costs at minimum. Self-lubricating bronze bearings protect against wear at 35 points where bearings are not ordinarily used. Quick set-up, speed, versatility and accuracy all contribute to lowered operating cost. No other lathes combine comparable capacity, specifications and advantages at the low Logan price.

Available in bench, floor, cabinet and turret models.

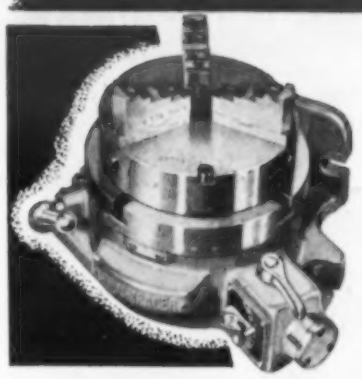
WRITE FOR DETAILED INFORMATION ON ALL LOGAN 9", 10" AND 11" LATHES AND 8" SHAPERS

LOGAN ENGINEERING CO.
4901 WEST LAWRENCE AVENUE • CHICAGO 30, ILLINOIS

LOOK TO Logan FOR BETTER LATHES AND SHAPERS

▲ Mention Item NED-3214 when writing ▲

New Indexing Fixture with Built-in Selector



THE NEW GORTON Multi-Spacer

A time-saver for all types of milling, drilling, boring and grinding operations. Eliminates extra job set-ups. Features built-in automatic selector; permanent index discs; no loose parts — no discs to change; 9" dia. table; sealed mechanism; vertical or horizontal set-up; milled base for ½", ⅝" or 11/16" keys. Available with seven positions . . . 2, 3, 4, 6, 8, 12 and 24 divisions.

FREE BULLETIN!

For detailed information on the Multi-Spacer and numerous other Gorton Time-saving Machine Tool Accessories write today for Free Bulletin No. 1317.

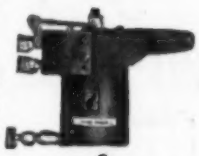
GEORGE GORTON MACHINE CO.
1905 RACINE ST., RACINE, WISCONSIN

▲ Mention Item NED-3215 when writing ▲

DESIGN FOR FASTER BETTER CHEAPER PRODUCTION

MEAD MASTER VALVE:
Starts and stops entire system.

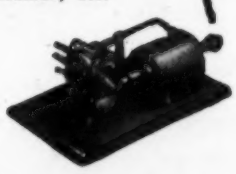
MEAD PNEUMATIC DRILL PRESS FEED:
Mounts on quill—feeds drill down to pre-determined stop, then withdraws.



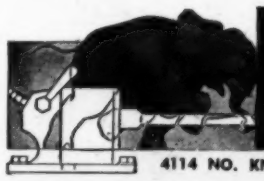
MEAD ONE MAN FACTORY

. . . now makes many "nuisance" jobs *semi-automatic!* Various other Mead units described in the catalog may be combined to handle a wide variety of projects. Write for new Mead Air Power Catalog describing Air Cylinders, Air Hammer, etc.

MEAD ROTARY WORK FEEDER:
Indexes at regulated speed, holds and ejects work pieces. Operator merely loads. Extra dials can be tooled for other jobs.



MEADMATIC TIMER:
Controls output per minute, maintains pneumatic interlock, blows away chips, etc.



MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. EA-59, CHICAGO 41, ILL.

▲ Mention Item NED-3216 when writing ▲

NEW Self-Priming Centrifugal Pumps

QUICK, POSITIVE PRIMING

Repriming is automatic and dependable due to non-siphoning feature which permits use of these pumps without check or foot valves (excepting where unusually long suction or discharge lines are encountered).

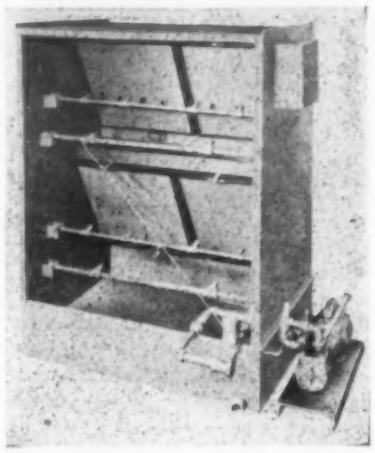
Regularly furnished with bronze impeller and stainless steel shaft through stuffing box. Heavy, ball bearing construction. Capacities from 10 to 280 g. p. m. Write for BULLETIN 3000.

THE DEMING COMPANY
520 Broadway • Salem, Ohio

DEMING
THE COMPLETE LINE
PUMPS AND WATER SYSTEMS

▲ Mention Item NED-3218 when writing ▲

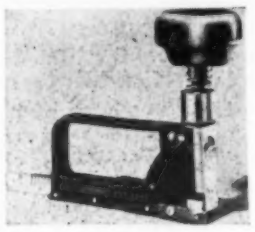
AIR FILTERS



Applicable to many types of air conditioning systems, automatic self-washing air filters are easily set in place and are ready to operate as soon as electrical and plumbing connections are made. They consist of banks of standard 20 x 20 x 4-inch Far-Air filters inclined 30-degrees toward air flow. Filter medium is comprised of alternate layers of flat and herringbone crimp 14-mesh zinc electroplated screen which makes efficient oil and water eliminator. Series of automatically controlled water and oil nozzles on entering air side of filters periodically washes and re-oils filter media. Constant displacement pump, controlled by timer, operates at proper speed and delivers correct amounts of oil according to number of filters in bank. Oil and water applied to filters is not re-used but is drained into sewer. Made by **Farr Co.**, Fourth & Southwest Dr., Los Angeles, Calif.

▲ Mention Item NED-3220 when writing ▲

AUTOMATIC HAND TACKER



Usable for fastening screen mesh, fabric, building paper, window shades, shipping tags and other similar materials, this automatic Spot-Tacker drives wide, flat, steel staple into hard or soft wood with one blow of hand. Ample supply of staples is held in magazine for production work, and tool is refilled easily. Made by **Spotnails, Inc.**, Evanston, Ill.

▲ Mention Item NED-3221 when writing ▲

SWIVEL CASTERS

Locking of curved top of fork between top and retaining plates in series 21 pressed steel casters assures that ball race sections remain properly aligned without king pin. Fork design eliminates distortion under conditions of overload and shock, and series of arches built into legs provides for dispersion of thrust loads over entire ball race. Wheels are available in various types including semi-steel with plain or roller bearings, solid rubber with oilless bearings, vulcanized rubber with roller bearings and plastic with plain or roller bearings. Made by **Fairbanks Co.**, Dept. 43, 395 Lafayette St., New York 3, N. Y.

▲ Mention Item NED-3222 when writing ▲

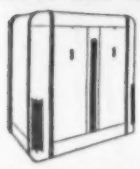
BERGER

Reg. U. S. Pat. Off.

ENGINEERS AND FABRICATORS OF SHEET STEEL PRODUCTS

Give us the Facts—

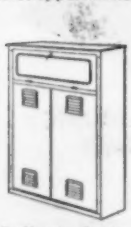
WE'LL MAKE YOUR PRODUCT



This Berger-made gas furnace jacket combines excellent eye-appeal with outstanding functional design.

Water-cooler cabinets, manufactured by Berger, are inviting in appearance, strong and durable.

This outdoor display case...result of modern product styling by Berger . . . creates new sales opportunities.



Delicate instruments are safely housed in this Berger-built bottled gas cabinet.

This trim, compact cabinet is but one of many produced by Berger as parts for assembly in various manufacturers' items, or as finished goods for their lines.

● Faced with a cost problem involving production of cabinets, jackets, display cases, housings or casings? Then, send the facts to Berger for a fast, efficient solution in fabricated sheet steel.

Berger engineers are experienced in transforming ideas into sound, practical, low-cost products. Skilled Berger craftsmen are backed by the accumulated experience of more than 63 years in sheet steel fabrication. The huge, modern Berger plant contains up-to-date equipment for efficient, quantity production . . . *including a large stock of tools and dies.* Berger finishing facilities rank with the finest in the industry.

Tested Berger techniques applied in sheet steel can make your problem products lighter in weight, stronger and more durable, more attractive and salable, or more economical. Berger engineers and designers are ready to work with you at any time, ready to combine attractive product appearance with most efficient production methods . . . at lowest cost to you. Write directly to:

BERGER MANUFACTURING DIVISION
REPUBLIC STEEL CORPORATION • • • • CANTON 5, OHIO

▲ Mention Item NED-3219 when writing ▲

This Handy Selection Chart Answers the Question...

The quick-reference selection chart and index, illustrated above, tells you at a glance which type of Biddle instrument to use for your particular speed measuring problem. This handy guide is but one of many helpful features found in a newly-published bulletin, which contains descriptions, illustrations, and other data on our resonant-reed, chronometric, and centrifugal types of high quality speed measuring instruments. We would be pleased to send you a *free* copy of this new Biddle bulletin with selector chart. Your request will bring it to you promptly. Simply ask for Bulletin 35-D.

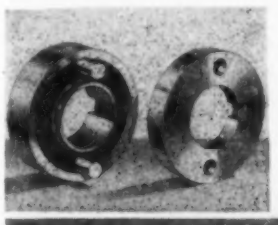
JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ Mention Item NED-3223 when writing ▲

NOW... the Motch & Merryweather *Master-Cut* A Better Blade for No More!

The *new* Master-Cut Blade, made of high speed steel, offers you definite advantages which pay out handsomely. The proper rake angle enables the teeth to cut ferrous or non-ferrous materials faster. Uniform side clearance avoids binding and friction. M. & M. Dual Drive Adaptors lengthen life and eliminate breakage. Our distinctive *flat hub*, thinner than the cutting edge, makes for rigid holding

• Available from stock in Dual Drive or conventional key drive type.



M. & M. Dual Drive Adaptors allow the same blade to be used on a range of arbor sizes. The adaptor is keyed to the arbor to provide ample driving power.

Ask for Bulletin "N-S."

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING CLEVELAND 13, OHIO

AT YOUR COMMAND • AN UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

▲ Mention Item NED-3224 when writing ▲

Here is an IMPROVED way to HANDLE MATERIALS and POSITION WORK

LYON-*Raymond* Hydraulic HIGH-LIFT TRUCK

Modern welded tube and formed plate construction, designed for strength, rigidity and safety. Weighs only half as much as an ordinary tiering truck of comparable capacity.

1. LIFTS & TRANSPORTS Will pick up a skid load as handily as the usual type of lift truck. Easily transports capacity loads and can be steered into any space accommodating its width.

2. SUPPORTS An adjustable support for overhanging work on drill presses, shears, cut-off machines, punch presses, etc. Serves also as a feed table for many operations. Secure floor lock.

3. LEVELS Exact leveling for changing dies in presses. Ideal for transporting heavy die sets, fixtures and tools to and from storage bins.

4. POSITIONS Adaptable to positioning work in lathes, loading and unloading heavy work from other machine tools. Quicker and safer than with a helper and chain hoist.

5. LOADS & UNLOADS One man can do the work of many in loading and unloading freight. Especially convenient where shipments are delivered to curb or where docks are not available. Hydraulic operation assures ease and safety.

6. TIERS An easily maneuvered truck, adaptable to tiering. Among other uses it serves as an adjustable work table for machining, assembly and general toolroom work.

Write for Bulletin 136.

LYON-*Raymond* Corporation
790 Madison St. Greene, N. Y.

▲ Mention Item NED-3225 when writing ▲

DOUBLE VALUE DOUBLE SAVINGS*

KEL-NIT *Reversible* GLOVES

Kel-Nit reversibles provide obvious economy with complete hand protection. Extra wear because there is always a pair. Extra wear because there are two working sides to every Kel-Nit reversible.

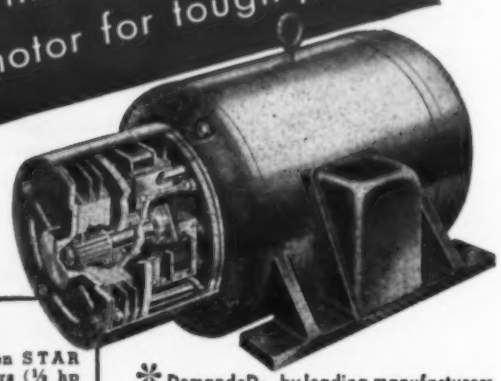
**In addition to Kel-Nit Fabric's proven service economy.*

Write today for descriptive folder!

KELLER GLOVE MFG. CO.
PLUMSTEADVILLE, PA.

▲ Mention Item NED-3226 when writing ▲

The STAR BRAKEMOTOR is the best d------d* motor for tough jobs!



Full data on STAR Brakemotors (½ hp to 60 hp)... and how they perform on tough "start and stop" jobs... are found in STAR's new Brakemotor Bulletin. Write for your copy.

*DemandeD...by leading manufacturers of materials-handling equipment where motors must stand up under a daily beating from heat, cold, shock and strain... and be depended upon to "start and stop" loads with split-second timing—and minimum maintenance.

Star Electric Motor Co.
Standard and Special Motors
214 Bloomfield Avenue, Bloomfield, New Jersey

▲ Mention Item NED-3227 when writing ▲

MECHANISM *completely new*
SCALE *unmatched readability*
SHIELDING *far beyond prior concepts*
DESIGN *modern as tomorrow*
ACCURACY *within ½ of 1%*

New WESTON Model 901 D-C PORTABLES

As to Shielding, one user writes: "Making frequent voltage measurements with your Model 901, in the heavy magnetic field near a 15,000 ampere bus, the meter consistently checks well within guaranteed accuracy."

Available in D-C, Model 901; and A-C, Model 904, single and multiple ranges of wide coverage. Ask your local Weston representative for the facts, or write . . . WESTON Electrical Instrument Corporation, 617 Frelinghuysen Ave., Newark 5, N. J.

WESTON *Instruments*

▲ Mention Item NED-3228 when writing ▲

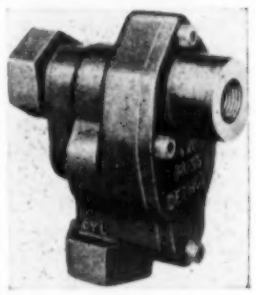
TEMPERATURE CONTROL

Capable of maintaining constant watt-hour input and even temperature regardless of line voltage fluctuations, model 600 Temcometer stepless input controller is used for regulating temperatures of electrically heated furnaces, ovens, mantles, tanks and pots. Instrument dial is graduated in per cent of time "on", and stepless regulation between 5 and 100 per cent is provided. It is designed for permanent through-panel mounting, is 3½ inches in diameter and extends 4 inches behind mounting panel. For loads over 6 amperes 115 volts, or 3 amperes 230 volts, instrument should be connected to relay of proper capacity for connected loads. Made by **Thermo Electric Mfg. Co.**, 484 W. Locust St., Dubuque, Ia.

▲ Mention Item NED-3229 when writing ▲

CYLINDER EXHAUST VALVE

Air cylinders can start their return in split second when this quick exhaust or dumping valve is used as supplement to standard operating valve. When latter is moved to open position and air starts to exhaust, dumping valve opens automatically so that cylinder starts its return almost immediately. Unit is mounted directly on cylinder and is available in pipe sizes from ⅜ to 1 inch. Made by **Ross Operating Valve Co.**, 120 E. Golden Gate Ave., Detroit 3, Mich.



▲ Mention Item NED-3230 when writing ▲

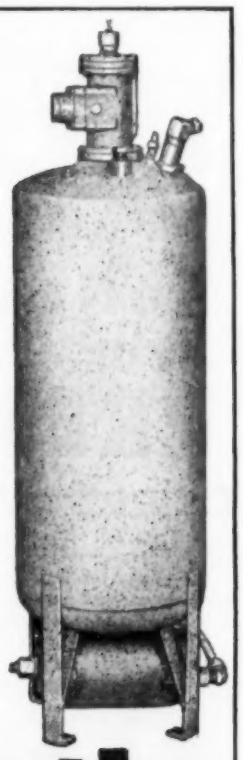
SAFETY GOGGLE

Available in various styles for protection during chipping and welding operations, Cesco cup-type goggle utilizes molded thermoplastic cups which are strong and durable yet light in weight. Wearing comfort is provided by cups with broad contact surfaces to eliminate pressure spots. Molded rubber headband will not kink, curl or twist and has no buckles or sharp edges. Slip-disk size adjustment is quick and simple. Made by **Chicago Eye Shield Co.**, 2335 Warren Blvd., Chicago 12, Ill.

▲ Mention Item NED-3231 when writing ▲

INSTANTLY COOLS
WATER
ALCOHOL—OIL
through rapid heat transfer

The exceptionally high capacity of the new Temprite industrial liquid cooler is the result of rapid heat transfer, made possible with the famous Temprite "flooded" cooling principle. A complete system may be installed to cool water, light oils, alcohol and certain chemicals, without the necessity of employing space-consuming storage tanks. For example, the compact 54"-high Temprite will deliver 1185 gallons per hour, reducing the temperature from 60° to 40°.



SINCE 1929
Temprite
PRODUCTS CORP. 21 PIQUETTE, DETROIT 2

▲ Mention Item NED-3232 when writing ▲

91,994 TORNADO* Portable Electric BLOWERS and Vacuum Cleaners SOLD TO AMERICAN INDUSTRY*

Proof positive that TORNADO does the maintenance job quicker, easier and better than any similar equipment.

FREE TRIAL OFFER

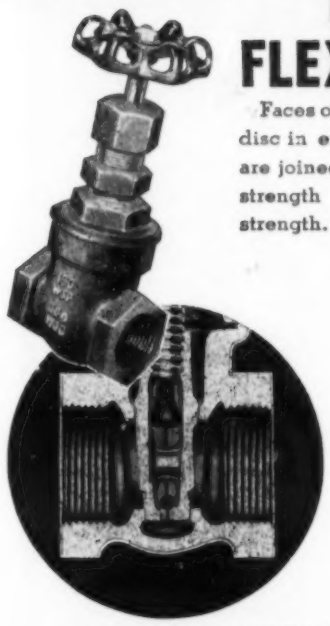
So confident are we that TORNADO Portable Electric Blowers and Industrial Vacuum Cleaners will prove their value to you in your own plant, under your own special conditions that we will gladly send you equipment for a free trial ... *Write today for complete details of this free trial offer ...*

*As of November 8, 1948 *Trade Mark Reg. U.S. Pat. Off.

BREUER ELECTRIC MFG. CO.
5098 RAVENSWOOD AVE., CHICAGO 40, ILL.

▲ Mention Item NED-3233 when writing ▲

LONGER VALVE LIFE WITH THE FLEXITITE* DISC



Faces of the hollow-cored Flexitite* disc in every Ohio Brass gate valve are joined by two solid posts of high-strength bronze for solid wedge strength. Disc edges are slotted to provide flexibility for adjustment. This flexibility prevents excessive wearing and scoring of seat and disc faces, giving you a valve that stays tight longer than any other general purpose gate valve. Next time you need gate valves, order a supply from your local Ohio Brass distributor.

OHIO BRASS COMPANY, MANSFIELD 1 OHIO

*Reg. U. S. Patent Office 3004-V

Ohio Brass VALVES

▲ Mention Item NED-3234 when writing ▲

Speed Sweep
THE BRUSH WITH THE STEEL BACK

Sweeps Cleaner, Faster, Easier
Outlasts Ordinary Brushes 3 to 1

Here is the one and only brush that is specially designed to do a more thorough sweeping job with less effort. It is also the only brush that is constructed to outlast ordinary brushes. Send coupon today for complete information and prices. *Milwaukee Dustless Brush Co., Milwaukee 3, Wis.*

There's a style and size of Speed Sweep for every sweeping need.

Milwaukee Dustless Brush Co.
530 N. 22nd St. • Milwaukee 3, Wisconsin
Send complete facts about Speed Sweep brushes.
NAME_____
ADDRESS_____
CITY_____ STATE_____

▲ Mention Item NED-3235 when writing ▲

FORGET THE WHOLE THING

—forget this pesky job of manually draining your compressed air lines.

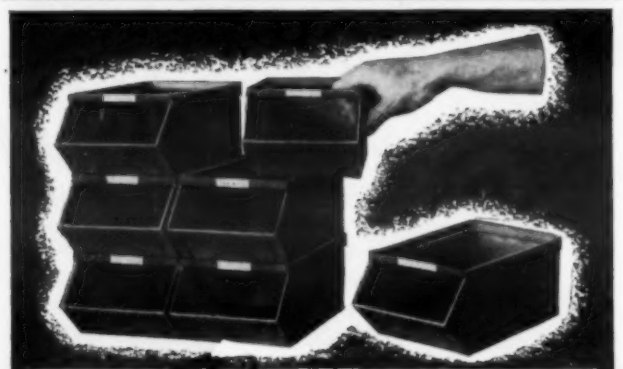
(It's often forgotten, anyway)

SIMPLY INSTALL THE NP

Continuously and automatically removes the *collected* water from water separators, air reservoirs, or low points in air lines. Eliminates water damage to equipment, work and materials. Saves labor, expense, worry—and many a shutdown or production slow-down. No air loss! Bulletin DC-25-A tells why. Address NATIONAL PNEUMATIC COMPANY, Industrial Div., Rahway, N. J.

Automatic WATER EJECTOR VALVE

Mention Item NED-3241 when writing



Parts...

★ Where You Want Them . . .

★ When You Want Them

You'll save time, space and labor handling parts and material when you use these patented STACKBINS. STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction.

MOST SIZES IN STOCK

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa.

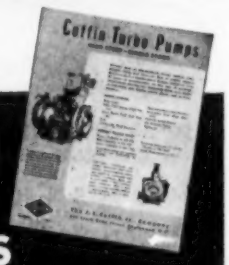
Write Stackbin Corp., 1089 Main St., Pawtucket, R. I.

STACKBIN SYSTEM

"Stacked and Still Accessible"

Mention Item NED-3242 when writing

here's the complete story on single stage TURBO PUMPS



At considerable effort and expense, The J. S. Coffin, Jr. Company has prepared a bulletin on Turbo Pumps which should be part of your permanent file. Here are some of the problems which this bulletin will help you solve:

Corrosion and destructive casing erosion; interstage leaking; wide range exact pressure governing; positive overspeed trip; loss of suction with resultant reduced speed; immediate shutdown because of seizure and automatic restarting; plus the solution to other pump problems. Send for Bulletin "S" today.

Coffin has been manufacturing pumps and serving industry for 25 years.

INDUSTRIAL RAILROAD COFFIN MARINE PRODUCTS

Representatives and service in 27 major cities.

THE J. S. COFFIN, JR., CO.
326 SOUTH DEAN STREET • ENGLEWOOD, NEW JERSEY

Please send me my copy of Bulletin "S" by return mail.

NAME.....
ADDRESS.....
FIRM.....
CITY.....ZONE.....STATE.....

156

Mention Item NED-3243 when writing

WATER COOLERS

Companion models to company's heavier-duty 10-gallon units, two self-contained drinking water coolers have 6-gallon capacity and will deliver ample cool drinking water to meet requirements of average light manufacturing plants as well as offices, institutions and commercial establishments. Water flow is automatically regulated to provide steady stream of water regardless of supply water pressure variations of as much as 20 to 80 pounds per square inch. Coolers can be obtained with hermetic condensing units using either air cooled or water cooled condenser and can be equipped with transformers for special electrical connections. Made by **Temprite Products Corp.**, 51 Piquette Ave., Detroit 2, Mich.

Mention Item NED-3244 when writing

INSULATED WIRE

Rated 105° C continuous operation for 300 and 600 volts, Turbotherm REL-16A insulated wire can be used for all hook-up and lead applications. Insulation is composed of vinyl dielectric with closely braided lacquered glass jacket. Wire can be used at temperatures to −10° C, is free stripping and is approved by Underwriters' Laboratories. Samples are available. Made by **William Brand & Co.**, 274 Fourth Ave., New York 10, N. Y.

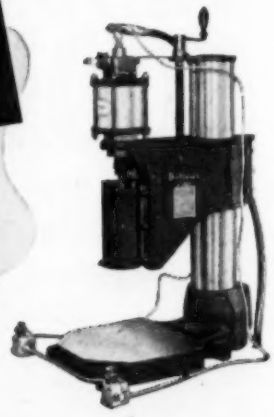
Mention Item NED-3245 when writing

TORSION TYPE BALANCE

Having many uses below delicate work for which accuracy of enclosed-case ultra-refined precision balance alone suffices, improved torsion type balance has sensitivity of 2 milligrams and capacity of 120 grams. Beam balancing is accomplished by means of ribbon metal bands acting in torsion rather than pivoting on knife edges. Torsion bands, beam and all other exposed metal parts are made of corrosion-resistant alloys. Other features include larger polished stainless steel balance pans; larger beam graduated in two parallel scales, one in grains and other in grams; single pointer moving across angle-positioned index scale for easy reading and rider which is sufficient for all weights below 1 gram. Hinged lid with glass top is dust-tight, and metal case has heavy hard-surface fired glass panels set in rubber gaskets. Exterior finish is hard gray synthetic, and interior is low-gloss white to minimize reflection. Made by **Torsion Balance Co.**, Clifton, N. J.

Mention Item NED-3246 when writing

5500 lbs. IMPACT WITH THIS Bellows Air-Powered PRESS



THIS spring-loaded impact press operates on any air line pressure from 20 lbs. to 175 lbs. . . . develops a controlled impact force ranging from a few pounds up to approximately 5500 pounds at 100 lbs. air pressure.

Ram shaft has a maximum clearance of 13-7/16" (maximum ram movement 1¼" with a vertical adjustment of 12"). Throat clearance 7".

The Bellows "Controlled-Air-Power" Impact Press is available with either electrical or manual foot controls, or with two hand safety controls.

Write for Bulletin P-400, Dept. NED 546

The Bellows Co.
AKRON 9, OHIO

926

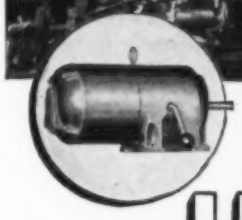
"Controlled-Air-Power"
For Faster, Safer, Better Production

Mention Item NED-3247 when writing

Modernized with LIMA Gearshift Drives

RECENT improvements at Ohio State University, included the modernization of many South Bend Lathes with *"selective-speed"* LIMA Gearshift Drives. A few of these machines are shown in the photo below. LIMA Gearshift Drives were selected by Ohio State because of LIMA'S *"production-line"* tested reputation for flexibility, ruggedness and stamina. If you have a drive problem, it will pay you to consult a LIMA engineer—there is one near you . . . write, wire or call for his address today.

Ohio State's completely modernized Industrial Engineering Department



• LIMA *"selective-speed"* Gearshift Drives for application to all types of machine tools and production equipment, are available in sizes from ½ to 25 hp. Write for bulletins.

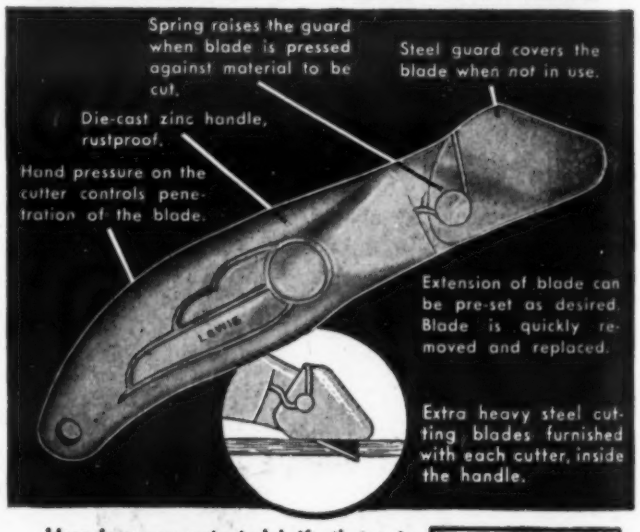
LIMA

Representation in principal cities
THE LIMA ELECTRIC MOTOR COMPANY
399 Findlay Road • Lima, Ohio

Mention Item NED-3248 when writing

A New Invention . . . Safe . . . Different

LEWIS Automatic SAFETY CUTTER

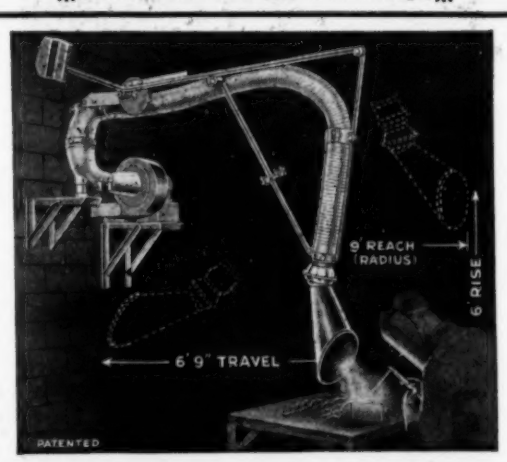


Here is a new patented knife that cuts swiftly, surely, safely . . . yet protects the user from injury. Always safe because the blade is guarded — always ready to use because there's nothing to adjust.

Retail Price $1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

Mention Item NED-3249 when writing



RUEMELIN Fume Collector

Removes Welding Fumes at the Source...

Why continue to let your employees inhale welding fumes? You can solve the problem quickly and efficiently by installing a Ruemelin Fume Collector. It produces a powerful suction that draws out noxious gases, smoke and heat at the source. Guards employee health, resulting in less welder fatigue, therefore, greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing).

For complete details write for Bulletin 37-D just off the press.

RUEMELIN MFG. CO.
3883 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

Mention Item NED-3250 when writing

Save time Improve Quality Reduce scrap with the **INDICATING MICROMETER**

You can make parts right the first time when you control dimensions with this Federal precision gage. Use it as a direct-reading micrometer or as an indicating snap gage: it shows positively how *far off* dimensions are and *which way* they're going. Retractable lower anvil gives constant gaging pressure and variation-free readings. Micrometer and dial graduated in ten thousandths (.0001"). Tungsten carbide anvils. No-rust dull chrome finish eliminates glare: graduations are sharp and easy to read. The Indicating Micrometer is your greatest micrometer value. Write for bulletin. Federal Products Corporation, 1118 Eddy Street, Providence 1, R. I.

FEDERAL

Dial Indicators • Indicating Gages • Special Gages
Electronic and Automatic Sorting Gages • Air Gages

▲ Mention Item NED-3251 when writing ▲

SYNTHETIC SAPPHIRE *for*

Resistance to Wear
Outlasting hardened steel and cemented carbides up to 5,000 times.

Resistance to Friction
Affording very low friction characteristics due to hardness and surface continuity.

Resistance to Heat Distortion
Retention of form at temperatures up to 1,000°C.

Retention of Insulating Properties
Excellent dielectric properties over a wide range of temperatures.

Synthetic Sapphire can be polished by flame or diamond polishing; it can be formed and bent by flame. Polished sapphire surfaces keep free of dirt, lint, and in many anti-friction applications, need not be lubricated.

Call or write the LINDE office nearest you for copies of the "Synthetic Crystals Properties Sheet" and the "Synthetic Crystal Stock List".

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd St., New York 17, N. Y. UCC Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

▲ Mention Item NED-3252 when writing ▲

it plays a double role to serve you better

Yes—Tufflex, the felted wood fiber blanket—combines dual qualities that serve a hundred uses in industry. You wouldn't believe that a material so soft and fleecy could be so tough—yet Tufflex can resist heavy impact blows. It's highly flexible—yet stays in place. It's an excellent cushioning material—cuts with clean edges to any size or shape. In addition, Tufflex is high in insulating and sound deadening efficiency. Manufacturers all over the country are finding that Tufflex is solving knotty problems in manufacturing and shipping. Let us give you complete specifications on this remarkable material—write Wood Conversion Company, Dept. 127-59, First National Bank Building, St. Paul 1, Minnesota.

TUFFLEX* MADE BY THE MAKERS OF *Balsam-Wool*

*REG. U. S. PAT. OFF.

▲ Mention Item NED-3253 when writing ▲

FIXED CENTER DRILL HEAD

Suitable for use on high speed sensitive drilling machines, this fixed center drilling head has 34 spindles in 6-inch square area. Design eliminates oil seals and other rubbing parts. It is fully ball bearing equipped and has been operated at speeds up to 10,000 revolutions per minute with but little heat being generated. Head contains built-in type vane pump which pumps oil to top of head and, by centrifugal force, spreads it over entire upper surface from which it cascades down over bearings and gears. Features include castings of high-grade aluminum alloy, spindles and shafts of heat treated and ground alloy steel, and idler shafts mounted on ball bearings at each end of shaft. Made by **U. S. Drill Head Co.**, 616 Burns St., Cincinnati 4, O.

▲ Mention Item NED-3254 when writing ▲

STRIP WEIGHT CALCULATOR

Correct overall weight of various sheet and strip materials, including aluminum, copper, lead, zinc and alloys, can be determined through use of strip weight calculator. Designed primarily for use in connection with stamping die practice, calculator gives weight when width of strip and pitch of part, or the number of pieces per inch or foot are known. Calculators will be sent free upon request. Distributed by **Dayton Rogers Mfg. Co.**, 2837 Twelfth Ave. S., Minneapolis 7, Minn.

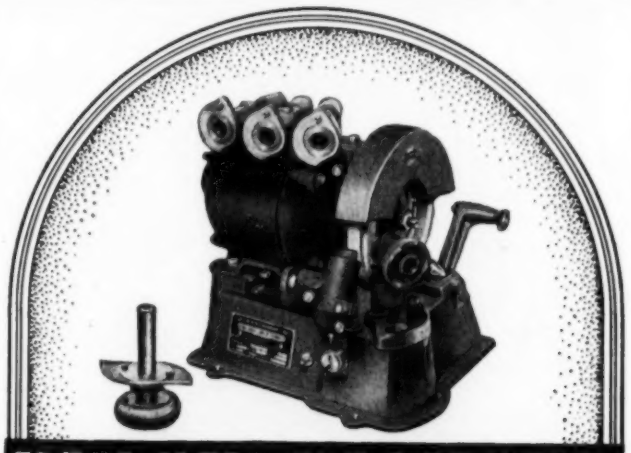
▲ Mention Item NED-3255 when writing ▲

THERMAL SWITCH

Applicable to signaling temperature variations in heating processes; switching large electrical loads in conjunction with intermediate relays; and on-off control of electrically operated valves, warning signals or motors, Microsen thermal switch operates from thermocouple input on 115 or 230-volt 50-60 cycle alternating current. It will control directly on and off switching load of 10 amperes at 115-volt alternating current or 32-volt direct current. Instrument is designed for 2 per cent operating accuracy, and compensation for temperature changes in range of 60 to 140° F is provided. Variations in line voltage from 95 to 130 volts are permissible.

Standard temperature ranges are 100 to 600, 100 to 1000, 400 to 1600, and 800 to 2000° F. Temperature settings within any of above ranges are made by knob and pointer on chassis. Made by **Manning, Maxwell & Moore, Inc.**, 1943 Elias St., Bridgeport 2, Conn.

▲ Mention Item NED-3256 when writing ▲



BLACK DIAMOND
PRECISION DRILL GRINDER

ACCURATELY GROUND • TRUE CENTERED • SMALL DRILLS • BY THE HUNDREDS OR THOUSANDS

ANYONE can operate a Black Diamond. Even the most inexperienced can keep all small drills sharp—and true centered, with smooth lips accurately ground to exactly the same length—at the proper angle and with correct clearance for fast, precision drilling.

Black Diamond Grinders cut 50% and more on drill grinding costs, sharpen without waste of expensive drill stock, reduce drill breakage and work spoilage to a minimum.

The built-in Diamond Point Dresser keeps the grinding wheel ever-sharp and the Web Thinning Attachment cares for all types of notched points to perfection.

Whether you use drills singly or in gangs—by hundreds or thousands—this moderately priced machine—motor driven—will keep any supply quickly available.

WRITE FOR NEW BULLETIN—TODAY

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

▲ Mention Item NED-3257 when writing ▲

with Federal Noark NTPS and NTPR Panelboards

TODAY'S LOWEST PRICED, smartest looking toggle switch panelboards are Federal Noark N.T.P.S. Made in 4, 8, 12 circuits; ample wiring space . . . For more than 12-branch circuits—up to 40—specify Noark N.T.P.R. . . . Both types fit in 4" partitions . . . Write for "Federalog" giving full data. Federal Electric Products Company, 50 Paris St., Newark 5, N. J.

FEDERAL NOARK PANELBOARDS
SALES OFFICES IN PRINCIPAL CITIES

▲ Mention Item NED-3258 when writing ▲

YOU CAN BE SURE.. IF IT'S Westinghouse

up to 1/3 less space...
improved windings...
plate steel protected...

Now . . . for the first time . . . you can install electric motors, or motor-driven machines . . . and forget motor lubrication.

Westinghouse Life-Line . . . industry's amazing new, all-steel motor . . . now completely eliminates need for lubrication. Life-Line motors are equipped with sealed bearings, pre-lubricated with a more-than-ample supply of specially treated lubricant.

Correct lubrication is assured . . . machine outages are reduced . . . motor drive problems are simplified, since motors can be located without need for constant accessibility.

Added to Life-Line's plate-steel protection, improved windings and more compact size, *pre-lubrication* is one more important reason for starting to convert, today, to Life-Line power. Standard ratings available from stock—others on short delivery schedules. Ask your Westinghouse representative for price and delivery on your requirements, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-21511

Westinghouse Life-Line Motors

▲ Mention Item NED-3259 when writing ▲

ABELL-HOWE CRANES
Lift Trouble Out of Your Plant

Abell-Howe Cranes are no prima donnas. They move loads on schedule, without a hitch, with a minimum of maintenance, year in, year out. Their advanced design and rugged construction are the work of crane specialists who have concentrated on overhead handling equipment for 25 years. That is why it will pay you to look into the complete line of cranes, runways, monorail equipment and hoists . . . and the engineering service . . . that Abell-Howe delivers. Write us today.

Ask for **Catalog C-110**

ABELL-HOWE CO.
53 W. JACKSON BLVD., CHICAGO 4, ILLINOIS

CRANES AND RUNWAYS • MONORAILS • HOISTS • STORAGE RACKS

▲ Mention Item NED-3260 when writing ▲

Rubberlike is the least expensive and the safest Floor Runner you can buy!

Rubberlike Runner costs less than 7¢ a square foot . . . the least expensive *and* the safest floor runner you can buy!

Protect trouble spots with Bird Rubberlike Runner, designed for heavy traffic areas. Floors get tough lasting protection with this patented thermoplastic . . . it's non-skid wet or dry, and it's self healing. Cuts and nicks are resealed by passing traffic!

Protect your floors and those who walk on them with Bird Rubberlike Runner! In rolls 27" x 100', 36" x 75'. Order from your distributor or write for *free* sample. Bird & Son, inc., 14 Birch Street, East Walpole, Mass.

BIRD RUBBERLIKE® *Runner* BIRD & SON inc

PATENTED NON-RUBBER CONSTRUCTION

▲ Mention Item NED-3261 when writing ▲

NOISE-VIBRATION ANALYZER

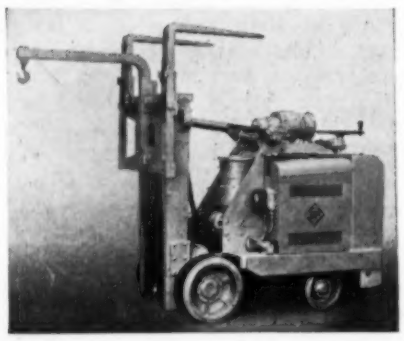
Vibration detection and noise analysis in all types of equipment are performed readily with this Sono-Probe electronic amplifier. Long metal probe of microphone or Bakelite probe for electrical equipment testing is placed in contact with shaft, bearing, housing or other source of vibration. Because unit is insensitive to airborne sounds, operator can confine his investigation to object being touched by probe.

Earphones enable user to analyze character of vibrations; decibel meter and simple volume control permit accurate measurement of amount of vibration. Volume can be adjusted to acceptable standard decibel level, and vibration level of any number of parts or machines can be measured against it. Instrument provides go no-go or graded standard for inspecting parts or finished assemblies, for maintenance and trouble shooting, for diagnosing motor ailments, checking sound insulations and detecting air or water leaks.

Bench model operates on 115 volts alternating current and is shown with probe in fixed position on standard bearing tester. Portable battery operated model is available for line testing of engines, pumps and large assemblies. Made by **Aircraft Electronics Associates, Inc.,** Dept. C, 1031 New Britain Ave., Hartford 10, Conn.

▲ Mention Item NED-3262 when writing ▲

TRUCK FORK & BOOM



Particularly useful in metalworking plants where loads are heavy and vary in shape and size, industrial truck attachment permits change-over from fork to boom operation in few minutes without special tools. Attachment has many applications in industries generally using fork trucks but having occasional need for moving goods or equipment best carried by means of rope or cable sling suspended from boom. Both fork and boom can be used together for some jobs requiring extra security in handling.

Device has three main parts which include base member attached to truck's lifting mechanism and which rides in upright tilting columns, fork tines suspended from bar supported on base, and boom. Boom is heat-treated solid alloy steel bar bent at right angles near middle of its length with part which engages base machined for sliding fit into brackets. When forks are to be used alone, boom is detached by slipping it out of holder. When boom is required by itself, fork tines are swung upward and backward and held in this reversed position by means of pins in brackets at top of back-base. Made by **Elwell-Parker Electric Co.,** 4502 St. Clair Ave., Cleveland 14, O.

▲ Mention Item NED-3263 when writing ▲

Gast's new booklet...
packed with Ideas for Product Designers

If you design machinery—or have a part in product development—you'll find this booklet a useful idea-source. It contains data on the use of *air* for many common—and uncommon—applications . . . plus 26 examples of product problems that were solved by putting air to work.

Sooner or later, "Air may be *your* Answer" on a product design problem. *Write on letterhead for your copy of "Application Ideas".*

GAST ROTARY AIR MOTORS • COMPRESSORS • VACUUM PUMPS
(TO ONE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

▲ Mention Item NED-3264 when writing ▲

EASY HANDLING WITH Bond General Purpose HAND TRUCKS

No. 4939—with curved crossbars

No. 4980—with straight crossbars

You can depend on Bond General Purpose Hand Trucks to ease and speed your handling. Note these construction features:

- Full welded, all steel construction.
- Inside wheels prevent snagging or binding.
- Parallel sides provide sure support.
- Even distribution of weight contributes to better load balance.
- Wide nosepiece makes loading easier.
- Cold rolled, round axle is easy to replace.

Length including handles, 54". Parallel width, 19". Weight, 70 lbs. Furnished with plain or roller bearing, semi-steel wheels; plain or roller bearing, vulcanized-on rubber tire wheels.

- *Send for free folder* on the complete line of Bond Hand Trucks.

BOND FOUNDRY & MACHINE CO.
308 Penn St.
Manheim, Pa.

▲ Mention Item NED-3265 when writing ▲

THROW AWAY TIME-WASTING HAND SCREENS

SINGLE AND DOUBLE DECK MODELS

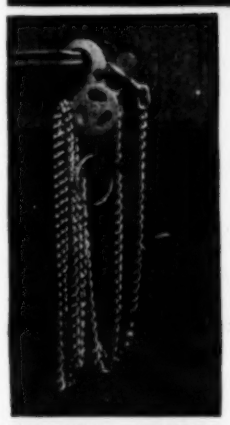
SPEEDS UP HUNDREDS OF LIGHT SCREENING JOBS

Whether your problem is sizing, dedusting or reclaiming; whether the material is sand, candies, nuts, shot tumbler chips or what have you, this new lightweight screen is the modern, efficient way to do it. Sizes 1½' x 4' to 2' x 8'. Write for folder, Dept. P.

SCREEN EQUIPMENT CO INC. • BUFFALO 21, NEW YORK
Makers of Famous Seco Vibrating Screens
In Canada: United Steel Corp., Ltd., Toronto

▲ Mention Item NED-3266 when writing ▲

Opening Box Car Doors GUARANTEED!



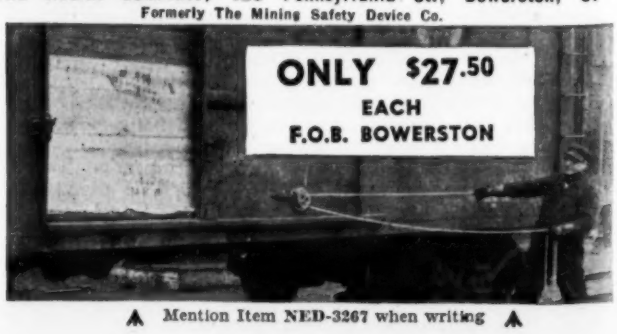
NOLAN ONE MAN CAR DOOR OPENER

One man can open the most binding balky box car door with the Nolan Car Door Opener. Get greater safety . . . speed loading and unloading schedules . . . order an ample supply to fill your needs today!

- No strained muscles. No slips or falls. No broken arms, legs or mashed fingers. No fatalities. No time wasted. No "gangs" needed. No time loss.

Write for free descriptive literature.

THE NOLAN COMPANY, 128 Pennsylvania St., Bowerston, O.
Formerly The Mining Safety Device Co.



▲ Mention Item NED-3267 when writing ▲

Free!

CUTS FINISHING COSTS!

Send for Your Copy Today!

Substantial time savings on finishing operations are certain when you use the new *Elgin Diamond Compound!* Lapping and polishing results of the highest quality are now possible at greatly reduced cost. Learn all about this faster and better finishing method. Write for illustrated literature now!

INDUSTRIAL PRODUCTS DIVISION
ELGIN NATIONAL WATCH COMPANY
AURORA, ILLINOIS

▲ Mention Item NED-3268 when writing ▲

THIS ROOF INSULATION

WON'T ROT... SHRINK... SWELL... WARP...

it's FIBERGLAS*

For top efficiency and minimum roof maintenance costs, specify Fiberglas Roof Insulation . . . the lightweight, rotproof insulation that is easy to handle and easy to cut and trim on the job.

Fiberglas Roof Insulation will not shrink, swell, warp or buckle. This combination of desirable characteristics provides a firm, dependable base for a built-up roof.

Exceptionally high insulating efficiency permits use of minimum thickness for any desired degree of protection.

Applied by leading roofers. For detailed information, consult your nearest Fiberglas branch office. Owens-Corning Fiberglas Corporation, Dept. 921, Toledo 1, Ohio. Branches in principal cities. In Canada: Fiberglas Canada Ltd., Toronto, Ont.

*FIBERGLAS is the trade mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

OWENS-CORNING FIBERGLAS BUILDING MATERIALS

BUILDING INSULATION • ACOUSTICAL TILE AND BOARD • ROOF INSULATION
MEMBRANE FABRIC • ALSO BASIC MATERIALS FOR SIDING, ETC.

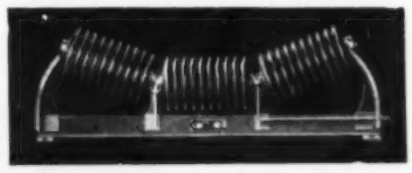
▲ Mention Item NED-3269 when writing ▲

PRESSURE TANK

Equipped with forged brass regulator, full size pressure gage, combination blowoff relief valve and brass material outlet, model N-400 two-gallon pressure tank is addition to line of paint spray equipment. Tank is completely galvanized both inside and out, is painted on outside and has concave bottom with reinforcing skirt. Top, which has working pressure of 50 pounds per square inch, is made of heavy-duty cast iron that is painted to prevent rusting and is attached to tank with four high-tensile brass swivel bolts. Made by **Black Mfg. Co.,** Parkton, Md.

▲ Mention Item NED-3270 when writing ▲

IMPACT IDLERS



Designed for troughed, flat and return conveyor belts, rubber disk impact idlers can be used under loading points to reduce damage to cover and carcass of belt. Equipped with antifriction bearings, these idlers are interchangeable with standard types. Also available are hollow-center rubber-tired impact idlers for heavier installations as well as special models to meet specific conditions. Made by **Continental Gin Co.,** Industrial Div., Birmingham 2, Ala.

▲ Mention Item NED-3271 when writing ▲

BLUEPRINT CABINET

Solidly built of heavy gage furniture steel, blueprint cabinet is equipped with smooth gliding drawers on ball-bearing rollers and has lift compressor in front of drawer and hood in rear to prevent material filed from curling, creasing or tearing. Cabinets can be used for artwork and photographs, blueprints, maps and plans, engravings and electrotypes, wall paper samples, swatches of textiles, leathers and paper stocks. They are supplied in olive green or gray crinkle finish, and five-drawer units can be stacked securely to meet individual requirements. Automatic plunger-type lock controlling all five drawers and 7½-inch base are available. Two sizes of cabinets can be obtained: one with inside drawer dimensions of 37 x 25 x 2¼ inches, and other with inside drawer dimensions of 43 x 32 x 2¼ inches. Made by **Cole Steel Equipment Co.,** 285 Madison Ave., New York 17, N. Y.

▲ Mention Item NED-3272 when writing ▲

FASTEST, MOST ACCURATE DEW POINT MEASUREMENT

with the ALNOR Dewpointer!

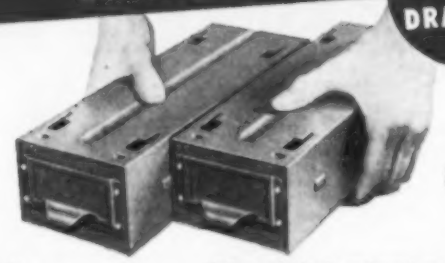
EXCLUSIVE ALNOR ADVANTAGES
- No external coolant required! True portability and convenience.
- Dew or fog is observed suspended in air—not on a polished surface! Two or more observers get same accurate results!
- Greater speed in measurement!
- Greater accuracy at all times!

Send for details and prices! Address Illinois Testing Laboratories, Inc. Room 529, 420 N. La Salle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ Mention Item NED-3273 when writing ▲

SOLVE YOUR SMALL PARTS STORAGE PROBLEM WITH ALL-STEEL • MULTI DRAWERS

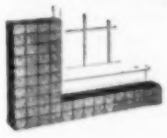


M-1212

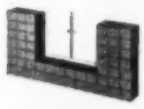
Easily assembled to fit any size or shape space.

Positive, Rigid Interlocking, Top, Bottom and Sides. Durable green finish.

TWO CONVENIENT SIZES
A New Low Price in Parts Cabinets



M-1212 (large drawer unit)—11¹¹⁄₁₆" front to back, 3¹⁵⁄₁₆" wide, 3" deep—$1.29 each. Accommodates 5 drawer dividers—5c each—Part No. M-1213.



M-1010 (small drawer unit)—5" front to back, 2⅞" wide, 2¼" deep—40c each. Accommodates 3 drawer dividers—2 for 5c—Part No. M-1011.

Rated Jobbers, Manufacturers—write for quantity discounts—makes an ideal package for small parts merchandise. Jobbers—some excellent territories still open, write immediately. Catalog sheets and literature.

Available through Mill Supply Houses; Wholesalers, Jobbers or write direct for nearest supplier.

MULTI DRAWER

THE CINCINNATI VENTILATING CO.
INCORPORATED
COVINGTON, KENTUCKY

▲ Mention Item NED-3274 when writing ▲

DARTS close tight-stay tight because of the GROUND BALL JOINT

A TRUE BALL JOINT . . . spherical-ground to form wide, true-bearing surfaces . . . makes Darts drop-tight, leak-proof. Darts always give a snug fit without excessive wrenching.

BRONZE-TO-BRONZE SEATS . . . are extra-wide to give widest possible bearing surface. And each seat is precision-ground to lock the leaks.

EXTRA-HEAVY SHOULDERS . . shrug off wrench abuse and strains. An important feature that gives Darts a longer life.

PRACTICALLY INDESTRUCTIBLE . . . body and nut of air-refined, high-test malleable iron. No wonder Darts last longer . . . can be used again and again.

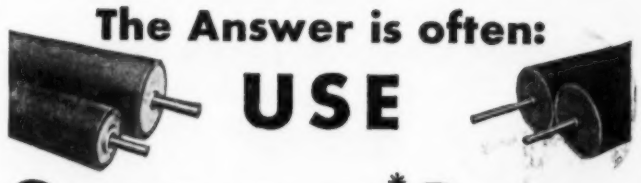
See your supplier today for the *longer-life union by Dart* . . . first choice for more than fifty years.

E. M. DART MANUFACTURING CO.
PROVIDENCE 5, RHODE ISLAND

▲ Mention Item NED-3275 when writing ▲

What's YOUR Roll Problem?

The Answer is often:

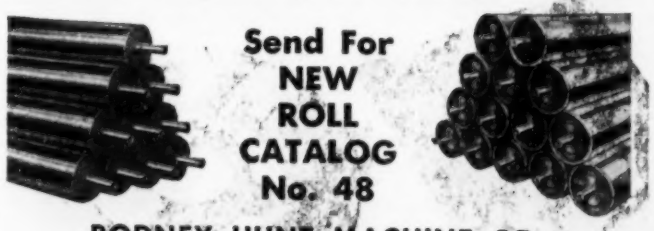


USE SHAF-TITE* ROLLS

Many Patented Constructions

Choice of

METAL, RUBBER, or WOOD ROLLS



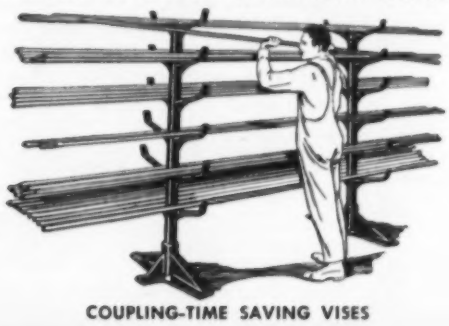
Send For NEW ROLL CATALOG No. 48

RODNEY HUNT MACHINE CO.
973 Main Street Orange, Mass., U. S. A.
*Reg. U.S. Pat. Off.

▲ Mention Item NED-3276 when writing ▲

—WANT QUICK SERVICE IN YOUR STOCK ROOM?

The BROWN SECTIONAL RACK saves the time previously lost in end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time. Any time you require additional storage space, all you need do is add more units. If you want to relocate it at any time, you can do so quickly for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn up, warp, sag, or twist; depreciation is practically nil. SEND FOR BULLETIN NO. 26-D DESCRIBING THE BROWN SECTIONAL RACK.



COUPLING-TIME SAVING VISES

BROWN ENGINEERING CO.
129 NORTH 3RD ST. READING, PENNA.

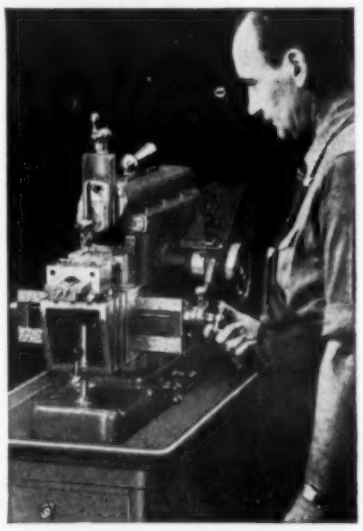
▲ Mention Item NED-3277 when writing ▲

CABLE-LAID GROMMET

Made entirely of preformed improved plow steel wires which give flexibility comparable to that of manila rope, SW-42 cable - laid grommet with double Acco - Loc splices can be used in same type of hitches as rope. Its all steel construction permits use of smaller diameters than with rope, and it provides safety factor of 5:1. Grommet is furnished in diameters from 9/32 to 1½ inches with rated capacities up to 53 tons in basket hitch. Made by **American Chain & Cable Co.**, Wilkes-Barre, Pa.

▲ Mention Item NED-3279 when writing ▲

SMALL BENCH SHAPER

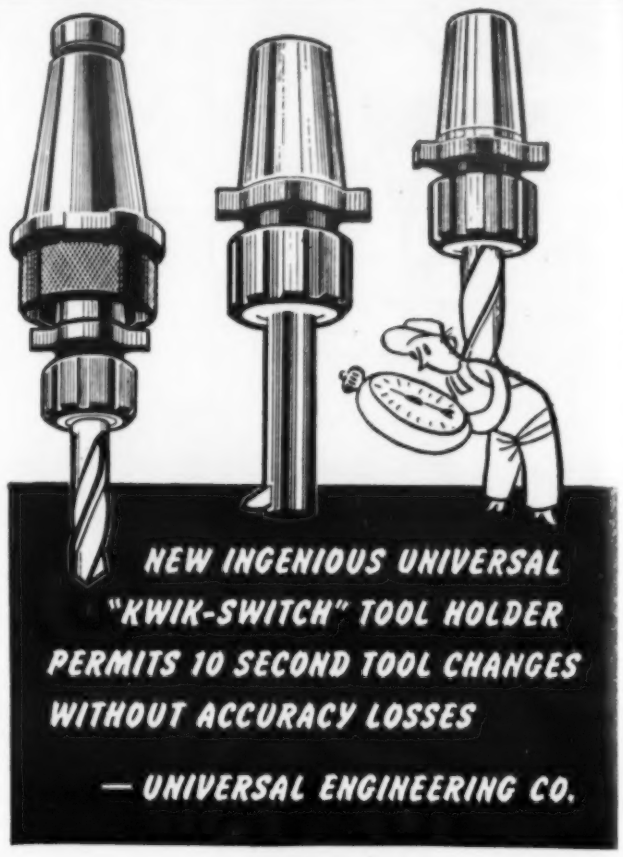


Designed for toolroom or industrial use, 7-inch precision bench shaper has 18-inch ram and infinitely adjustable stroke from 0 to 7 inches. Ram and table slides are milled and hand scraped for precision fit, and adjustable gibs permit take-up for wear. Bull gear and countershaft revolve in Oilite bearings. Stroke is adjusted by shifting rocker arm until witness mark corresponds with desired figure on rocker arm. This adjustment is made by means of large handwheel when crank shoe is at extreme top of its stroke.

Cutting speed can be varied from 3 to 114 feet per minute; and stroke speeds of 42, 75, 100 and 195 per minute are obtained by shifting V-belt on four-step cone pulley. Quick-action belt tension release facilitates belt changes. Tool head has 3-inch feed, swivels to any angle and has positive lock. Swivel clapper box permits tool clearance adjustments to be made.

Work table, slotted on top and sides and equipped with holes for attaching vise and work holders, measures 5-7/16 x 5 x 6 inches deep. Table is equipped with adjustable outboard support to base. Reversible power crossfeed for table ranges from 0.002 to 0.016-inch per stroke. Horizontal table travel is 9½ inches, vertical travel is 5 inches and maximum distance from table to ram is 5½ inches. Swivel type, graduated base vise has 4-inch wide jaws which open to 4 inches. Standard 1/3-horsepower motor can be used to drive machine. Made by **South Bend Lathe Works**, 307 E. Madison St., South Bend 22, Ind.

▲ Mention Item NED-3280 when writing ▲



FRANKENMUTH 6, MICHIGAN

▲ Mention Item NED-3282 when writing ▲

HALLOWELL

Steel Collars

"HALLOWELL" Solid Steel Collars, functionally proportioned throughout . . . precision-machined so faces run perfectly true . . . are beautifully polished all over . . . yet they cost less than common cast iron collars. 3" bore and smaller are made from Solid Bar Stock. To make sure the collar won't shift on the shaft, they are fitted with the famous "UNBRAKO" Knurled Point Self-Locking Socket Set Screw—the set screw that won't shake loose when once tightened. "HALLOWELL" . . . a "buy word" in shaft collars . . . available in a full range of sizes for

IMMEDIATE DELIVERY

Write for name and address of your nearest "HALLOWELL" and "UNBRAKO" Industrial Distributors.

OVER 46 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNSYLVANIA BOX 581
CHICAGO - DETROIT - ST. LOUIS - SAN FRANCISCO

▲ Mention Item NED-3283 when writing ▲

Purebon

solves many problems

caused by sliding or rotating parts which are difficult or impossible to lubricate

A constantly increasing stream of problems are facing engineers and designers today involving sliding or rotating parts where lubrication is difficult or impossible. For such applications, Purebon, the mechanical carbon, is often the ideal answer. Typical applications are seal rings, bearings, pistons, piston rings, pump vanes, valve seats, meter discs, and a host of similar items. Purebon comes in a wide variety of grades. It is strong, tough, readily machineable and in many cases can be molded directly to size.

Bulletin No. 482 tells the complete story of Purebon. Write for your copy today.

PURE CARBON CO., INC.
450 HALL AVE. ST. MARYS, PA.

▲ Mention Item NED-3278 when writing ▲

K-P *Engineered* WIRE MESH

SIEVING, SIZING, SEPARATING, STRAINING and FILTERING in ALL INDUSTRIES

Korb-Pettit Wire Mesh is not only first quality in material and workmanship but is engineered for the job involved. Made in all ductile metals, meshes, and weaves, plain or rolled. Also available in abrasion, corrosion and rust resistant metals. *Write for Catalog No. 36.*

KP "Keeps Promises"

KORB-PETTIT
Wire Fabrics & Iron Works Inc.
Engineers and Manufacturers
1501 North Mascher St.
Philadelphia 22, Pa.

Wire Mesh, Spiral Woven Wire Conveyor Belts, Infra-Red Conveyor Dryers, Leather Finishing and Drying Machines, Industrial Wire Partitions, Machine and Window Guards, Cages, Enclosures, Grilles, etc.

▲ Mention Item NED-3281 when writing ▲

Save Valuable Space With the JOY WG-9 COMPRESSOR

The WG-9 features the JOY "Dual-Cushion" Valve for top efficiency in continuous heavy-duty service. Vertical design and small base mean savings on floor space. Eleven sizes from 153 to 822 CFM. The complete JOY line includes compressors from 81 to 7312 CFM capacity—the most modern available for either centralized or decentralized air supply. *Write for Bulletins.*

Consult a Joy Engineer

W&D 1-2101

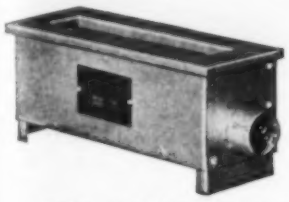
JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

▲ Mention Item NED-3284 when writing ▲

SUCH A SIMPLE IDEA... but it makes *Better* compound melters

Just like you would evenly wind string around your finger . . . so is copper resistance wire evenly wound around sidewalls and bottom of every Sta-Warm compound melting tank. It's a fundamental part of basic Sta-Warm design and it accounts for the evenly distributed heat that melts compounds and soft metals *faster, safer, more uniformly.*

No spotty-heat immersion or strip heaters in Sta-Warm design. No steam coils, oil or gas to bother with. Just handy, dependable electric current (110 or 220 V.) accurately and automatically controlled to meet your requirements.



Typical Sta-Warm heater, a solder melter of 2 to 24.5 lb. capacity.

There's a size and style of Sta-Warm heating tank or pot for the compounds your plant uses. Inquire today for latest bulletins and specifications.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST. • RAVENNA, OHIO

Mention Item NED-3285 when writing

Never Before a Valve Like This!

INCREASES PROFITS
REDUCES MAINTENANCE COST

The Rockwood Ball Type Valve has already made, in various types of industries, an outstanding record for longer, dependable, efficient performance.

Three chief reasons for the amazing Rockwood Valve record is the leak proof service, full round flow, and quick opening and closing. These remarkable engineering features will give efficient and economical operation through years of everyday use. Together, they help increase your profits and reduce your maintenance cost.

Rockwood Valves are available in bronze from ½" to 2" for 300 p.s.i. working pressure.

ROCKWOOD Ball Type VALVE

- FULL ROUND FLOW
- LEAK PROOF SERVICE
- OPERATES WITH NO MAINTENANCE

Write for Bulletin V-4

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

Mention Item NED-3286 when writing

THESE BOLTS ARE SOMETHING SPECIAL

DOWN TIME IS COSTLY. Earth-moving equipment, tractors and other heavy machinery need bolts that can resist extremely severe stress, shear and impact without wear or breakage.

"National" makes special bolts for such rugged service from high carbon or alloy steel, specially heat-treated.

These bolts can really stand the gaff.

Exceptional experience and facilities in *cold heading* enable us to offer unusual service on all types of "specials" that can be made by the upset process. We are often able to effect substantial savings.

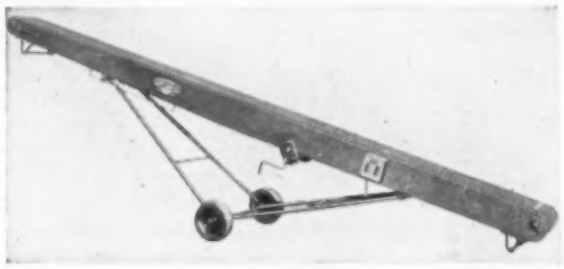
Please send us your inquiry.

National Screw and Threaded Products
THE NATIONAL SCREW & MFG. CO.
Cleveland 4, Ohio

Mention Item NED-3287 when writing

UNIVERSAL BELT CONVEYOR

Versatility of design is feature of this line of universal belt conveyors. They can be made into any length desired by addition of sections and belting, can be fur-



nished in any width and can operate at any speed in forward or reverse direction. With addition of sideboards, they will carry bulk materials. They are available with wheels for mobile use or without wheels for permanent installation. Power is supplied by either electric motor or gasoline engine which is mounted inside formed steel sides and is readily accessible for servicing. Made by **Industrial Engineering & Mfg. Co.**, Brimfield, Ind.

Mention Item NED-3288 when writing

SCREW MACHINE DRILL

Usable on any application where jig bushings are not required, this heavy duty, spiral fluted, carbide tipped drill is especially suited for hand and automatic screw machine work. Drills are made in short lengths, 3 inches in smaller diameters and to 6 inches in larger, with standard sizes available from 3/16 to 3/4-inch in increments of 1/64-inch. Made by **Super Tool Co.**, 21640 Hoover Rd., Detroit 13, Mich.

Mention Item NED-3289 when writing

FIRST AID CABINET

Designed to comply with state and insurance company requirements, Clearview first aid cabinets are available in two sizes fully stocked with first aid items. No. 66 contains 58 items and is designed for plants employing 50 to 100 workers. Drop leaf ledge at bottom of cabinet forms convenient working shelf. Cabinet No. 36 containing 45 items is designed for small shops with 10 to 50 employees. It has pull-out shelf at bottom. Cabinets are of steel and protect contents against dust, dirt and moisture. Glass door affords view of contents, and finish is white enamel. Made by **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

Mention Item NED-3290 when writing

A MORE EFFICIENT SYSTEM FOR MATERIALS HANDLING

DEMPSTER DUMPSTER

Regardless of the type of materials you handle, the Dempster-Dumpster System of one truck, equipped with a Dempster-Dumpster hoisting unit, handling an unlimited number of bodies does the job quicker, easier and with great savings in gas, oil, manpower and investment. Standard or special bodies in capacities from 1½ to 10 cu. yds. are placed at loading points, picked up when loaded, hauled and dumped with the entire operation handled by one man from hydraulic controls in cab. No wasted time for truck or driver. Pictured installation shows steps in handling tank body built for handling liquids. The comparatively low cost of installing this system will surprise you. Write for catalog 245 now.

DEMPSTER BROTHERS, Inc.
4118 N. Knox St., Knoxville 17, Tenn.

Mention Item NED-3291 when writing

SANITATION AT A SAVING

LP-20
Available in Black or White

OPEN FRONT AND BACK DESIGN... means quicker, easier cleaning. Cuts upkeep to a minimum. No germ-collecting crevices, always sanitary.

SELF-RAISING... Seat remains upright when not in use with bowl serving as urinal. Seat stays clean and dry.

SOLID PLASTIC... Shatter-proof, fireproof. Plastic covered hinge is dirt free, moisture proof. Assures long life, low maintenance.

WRITE NOW for full details on Model LP-20 (illus.), Model LP-40 with self-sustaining hinge, and a complete line of conventional models. DEPT. NE

SPERZEL
123 14th Avenue South
Minneapolis, Minnesota

All Sperzel Seats Fit Standard Bowls

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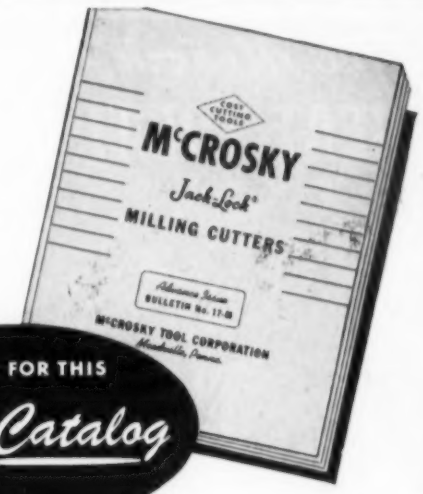

SEND FOR THIS *New Catalog*

● Here it is – full details about McCrosky's new line of inserted blade face mills, end mills, half side and staggered tooth cutters.

The catalog lists sizes, dimensions and prices – gives full details about the many standard cutters newly developed for steel, cast iron and aluminum.

All the pages haven't been printed yet. Send today for those that are ready – and we will mail the additional pages to you as fast as they are completed.

McCROSKY TOOL CORPORATION MEADVILLE, PA.

Jack-Lock® MILLING CUTTERS
Adjustable BLADE REAMERS
Quick-Change CHUCKS
Turret TOOL POSTS
Block Type BORING BARS
SPECIAL *Multiple Operation* TOOLS

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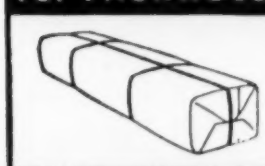
SHIP IT BETTER, FASTER, SAFER for LESS with SIGNODE STEEL STRAPPING

For PACKAGES



...CONTAINERS

...BUNDLES

Products that go to market protected with Signode steel strapping are products that travel at less cost, arrive in better condition, return bigger profits.

The use of Signode steel strapping and scientifically designed strapping tools also puts your packaging and shipping methods on a production line basis, increases man-hour output, saves time and materials, and gives you maximum protection against pilferage.

A trial order will convince you . . . or write for more detailed information and a copy of Signode's new "Answer Book" that shows how others are benefiting.

SIGNODE

SIGNODE STEEL STRAPPING COMPANY
2632 NORTH WESTERN AVENUE • CHICAGO 47, ILLINOIS

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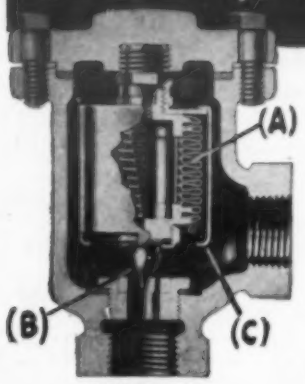
For 25 Years— THE LEADER



SARCO No. 9
THERMOSTATIC STEAM TRAP

Sarco, the pioneer in high pressure thermostatic steam trapping, has continually improved its know-how, its equipment and its application experience.

Sarco No. 9 is the leader because:

(A) Phosphor bronze heavy wall bellows, helically corrugated on special machines developed by Sarco. End closures brazed by electronic equipment. (B) Valve head and seat; stainless steel, renewable. (C) Patented shield protects bellows. Prongs prevent overexpansion. Large bellows and large orifice insure maximum real capacity. Fast action: Wide open when cold. Normal opening 10°F. below steam pressures.

Easily proved by test. 250,000 in service. Ask for Catalog No. 250. 250

SARCO SAVES STEAM
SARCO COMPANY, INC.
Empire State Bldg., New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

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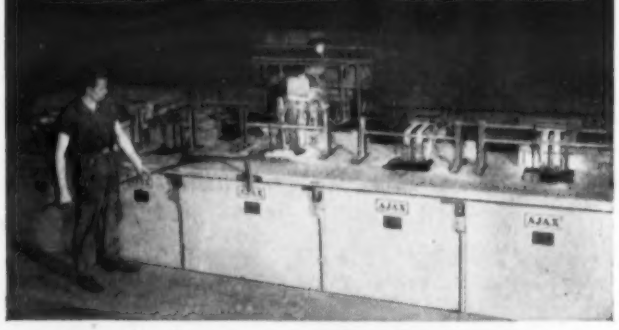
The Modern Way to HEAT TREAT METALS



Work faster... Reduce costs ON 4 JOBS OUT OF 5

Whether your plant is small or large . . . Whether you heat treat a great many metal parts or only enough to keep one small furnace reasonably busy . . .

Chances are 5 to 1 that an Ajax Electric Salt Bath Furnace can save you money—while assuring finer quality for every heat-treated metal part. Ajax furnaces are available in types and sizes for all kinds of work and lend themselves readily to mechanized production. The Ajax Metallurgical Service Laboratory will treat actual job lots of your materials as proof of results obtainable by this method.

Over 3,000 Installations
(more than all other electric salt baths combined)—for:
CARBURIZING
CYANIDE HARDENING
NEUTRAL HARDENING
ANNEALING or HARDENING
STAINLESS STEEL
BRAZING
HARDENING
HIGH SPEED STEEL
AUSTEMPERING
MARTEMPERING
PROCESS ANNEALING
CYCLIC ANNEALING
DRAWING (TEMPERING)
SOLUTION
HEAT TREATMENT
DESCALING
DESANDING
CLEANING

Write for Catalog F.
(State type of heat treating work in which you are interested.)

- Fewer man hours!
- No skilled labor needed!
- Faster production in less space!
- Absolute quality control.

SELF-HEATING • SELF-CIRCULATING
AJAX HULTGREN
ELECTRIC SALT BATH FURNACES

AJAX ELECTRIC COMPANY, INC.
103 Allen Street, Philadelphia 23, Pa.
THE WORLD'S LARGEST MANUFACTURER OF ELECTRIC HEAT TREATING FURNACES EXCLUSIVELY

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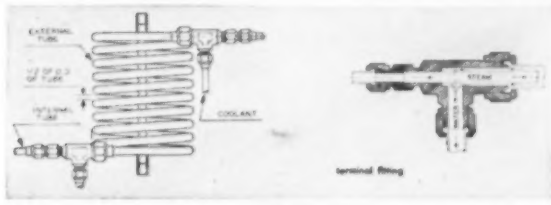
DUAL HEAT TRANSFER COILS

Usable for cooling steam or water test samples on boilers of all ratings, in refrigeration equipment, in oil stills and in hydraulic circuits for cooling oil, dual heat



transfer coils effect efficient heat exchange between liquids and gases. They are available from stock as pre-engineered units.

Coils can be obtained in two ratings. For service at pressures to 1000 pounds per square inch and temperatures to 700° F, units are fabricated of seamless copper tubing and bronze fittings and are available in six standard sizes. For pressures ranging to 2000 pounds per square inch and temperatures to 1500° F, outer coils are of seamless copper, while inner coils are stainless steel. End fittings are also stainless, and coil terminals are carbon steel. Three sizes are obtainable.

External tube size ranges from ½ to 1½ inches outside diameter, internal tubes from ¼ to 1 inch. Heat transfer area ratios range from 2.62 square feet external coil and 1.41 square feet internal coil to 7.85 square feet external and 5.81 square feet internal. Triple-lok fittings meeting J.I.C. hydraulic standards are used on all coils. Drilled mounting brackets are furnished. Made by **Parker Appliance Co.**, 17325 Euclid Ave., Cleveland 12, O.

Mention Item NED-3299 when writing

DRUM HANDLING TRUCK

Eliminating manual exertion in handling of drums and barrels, model 800 Drumobile three-wheeled carrier is designed to lift, transport and release any size or type of steel drum, wood barrel or cylindrical fiber container. It will accommodate loads up to 850 pounds in 50 to 60-gallon sizes and, as a result, is suitable for many applications among petroleum and edible oil producers, chemical process plants, distilleries, food processers, bakeries, institutions and railroads.

Scarcely wider than drum itself, truck can be operated in close quarters where it picks up container, carries it in level upright position, and deposits it without being touched or tilted. Lever-handle, after serving its function in lifting load and actuating safety lock, becomes vertically free-swinging steering column adaptable to any desired height. Welded chassis is equipped with choice of three accessory gripping devices for steel drums, wood barrels or rimless fiber containers. Prices are: $87.50 for steel drum model, $92.50 for wood barrel model, and $99.50 for combination drum and barrel model. Made by **Brantwood Products, Inc.**, Ernst Drumobile Div., Dept. NED, 115 Brayton St., Buffalo 13, N. Y.

Mention Item NED-3300 when writing

New Efficiency and Savings in Your Yard with ROUSTABOUT CRANES

The fast tractor-footed load-hustlers

● Wide open yard spaces that eat up profits start paying off with Roustabout Cranes on the job, loading, unloading, moving, shifting, stacking. Grab-bucket, hook or magnet, *where* you want them, *when* you want them. Engineered for years of overwork—mounted on wheel or crawler tractors. Loads to 7½ tons. Roustabout saves costly delays and manpower—pays for itself fast. Write for the money-saving facts today—to **Dept. P-3.**

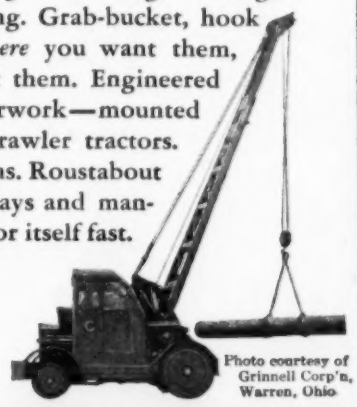


Photo courtesy of Grinnell Corp'n, Warren, Ohio

HUGHES-KEENAN CORPORATION
DELAWARE, OHIO, U. S. A.
Load-Handling Specialists since 1904

Mention Item NED-3301 when writing

END CONVEYOR BELT TROUBLES

SAVE TIME, LABOR, MONEY, TROUBLE, with FMC Flat-top STEELBELT. Conveys bags, boxes, cans, and packages and products of endless variety. Made of 302 (18-8) stainless steel. Supplied in any length and in widths in multiples of even inches. Easy to clean, easy to splice. Allows free circulation of air, water, steam, etc.

fmc

SEND FOR FREE SAMPLE AND FOLDER "K"

FOOD MACHINERY AND CHEMICAL CORPORATION
ANDERSON-BARNGROVER DIVISION • SAN JOSE, CALIF.
SPRAGUE-SELLS DIVISION • HOOPESTON, ILLINOIS

Mention Item NED-3302 when writing

100 H. P. Century MOTOR— Driving a 60" Grinding Wheel Provides a Smooth Production Combination

This 100 H. P. Century Motor operating a huge 60" surface grinder and the 25 H.P. Century motor operating the feeder mechanism, is one of the hundreds of thousands of Century drive applications used in the precision production industries.

From Century's wide range of types and kinds of motors, in sizes from 1/6 to 400 horsepower, you can select the correct motor to meet the exact requirements of your machine tools, conveyors, processing machinery, etc. They help to increase productivity, keep maintenance costs low and reduce plant shutdowns caused by improperly applied motors.

Specify Century motors for all of your electric power requirements.

Popular types and ratings are generally available from factory and branch office stocks

Century MOTORS

CENTURY ELECTRIC COMPANY
1806 Pine Street, Saint Louis 3, Missouri
Offices and Stock Points in Principal Cities

Mention Item NED-3303 when writing

DICO* 400 x 8 WHEELS

DICO DC-303 Wheelbarrow and Industrial Wheel (Drop Center Rim)

There is a DICO Pneumatic-tired 4.00 x 8 wheel for practically every industrial use—and in a varied Price Range. DICO DC-303 is a remarkable 4.00 x 8 wheel for Wheelbarrow and Industrial use. Stamped from 14 gauge steel and of accurate, sturdy design. Separate welded-in seamless drawn steel hub available in variable lengths 4" to 7½". Smooth running—"zerk" fitted with ⅝", ¾" and 1" roller bearings. Designed for low speed applications. Also LB-75 lug base wheels for zero pressure tires.

DICO TR-73 Hi Speed Heavy Duty TRAILER WHEEL (DEMOUNTABLE RIM)

"Tops" in quality and service for auto and boat trailers or heavy industrial use. Weight carried on welded-in cone and hub assembly and not on the bolts. Timken tapered cone bearings. Carried in stock with 5" hub and ¾" bearings but available with Timken bearings ⅝" to 1", and various hub lengths. With bearings and cups only or complete with axle and seal assembly. 14 gauge steel.

DICO W-74 STANDARD INDUSTRIAL (DEMOUNTABLE RIM)

This DICO 4.00 x 8 wheel is designed for Agricultural and other Equipment Manufacturers for low speed application. 16 gauge steel of same general construction as the TR-73 with roller bearings. "zerk" fitted. Available in reasonable quantity in various hub lengths and bearings ⅝" to 1½".

*DICO (pronounced DY-KO) a name of QUALITY in WHEELS. DICO Engineers welcome your problems. Write—

DICO MANUFACTURING CO.
(Division of Dico Corp.)
DEPT. 406 S.W. 16 ST. DES MOINES 5, IOWA

Mention Item NED-3304 when writing

NEW all-purpose ½" electric drill

STANLEY No. 112

No. 524 Drill Stand converts No. 112 Drill into drill press.

No. 525 Horizontal Drill to hold No. 112 Drill for buffing, grinding, wire brushing, etc.

Made to work in hard places. Chuck spindle offset permits operator to drill in close quarters without removing pipe or spade handles. Tough aluminum alloy housing. Thrust ball bearing on spindle. Automatic release safety switch. Alloy steel gears. Heavy rubber-covered 3-wire cable. Write for literature. Stanley Electric Tools, 563 Myrtle St., New Britain, Conn.

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • HAND TOOLS
ELECTRIC TOOLS • STEEL STRAPPING

▲ Mention Item NED-3305 when writing ▲

New R&S AUTOMATIC LOCKING Midget EVER-LOK

PLUGS, RECEPTACLES & CORD CONNECTORS

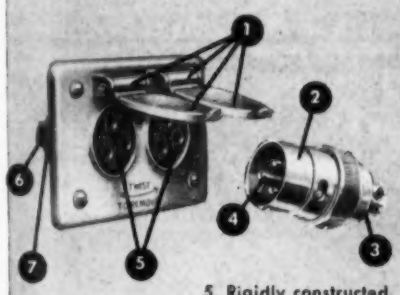
FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS

10 Amp. 250 V.
15 Amp. 125 V.
A.C. or D.C.

Small size solves space problems. Typical uses: business offices, institutional buildings, industrial plants, etc. Adaptable as component for portable electrical equipment: electric machine tools, communication and sound equipment, X-ray apparatus, etc. Embody all dependable features of larger Ever-Lok units, plus advanced improvements.

1. Spring hinged, gasketed covers close receptacle when not in use.

2. Plated steel housings fully protect the contacts.



3. Adjustable Cord Grips eliminate strain on connections.

4. Contacts are precision-made, self-wiping, and self-aligning.

5. Rigidly constructed, all interiors of molded arc-resisting composition.

6. Heat-treated beryllium copper contacts and terminals . . . an advanced EVER-LOK feature.

7. Compact design provides ample capacity, yet allows for easy wiring.

New 12-page catalog fully describes all types, dimensional drawings, ordering information, etc. Ask for catalog EL49-15.

Sold Through Electrical Wholesalers
SALES OFFICES IN PRINCIPAL CITIES

RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

▲ Mention Item NED-3306 when writing ▲

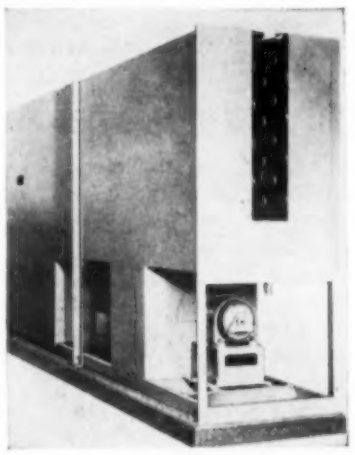
DRINKING WATER COOLERS

Hermetically sealed static condensing units are used in models OB-R-S compartment cooler, OB-2-S bottle cooler and OP-5-S pressure bubbler cooler in 1949 line of Oasis electric water coolers. Units are air cooled by natural radiation using large upright finned type condensers. These three coolers are powered by 1/10-horsepower motors.

Important feature of pressure bubbler coolers is improved pre-cooler which meets plumbing and safety codes throughout the United States. Pre-cooler has double wall of metal separating drinking water from waste water to prevent contamination. Underwriters' Laboratories have tested and approved each of 16 models in line. Made by **Ebco Mfg. Co.,** 401 W. Town St., Columbus 8, O.

▲ Mention Item NED-3307 when writing ▲

MECHANICAL DRYER



Originally designed for drying highly polished plated metal surfaces without water spots, stains or streaking, Spotless mechanical dryer has been adapted for metal parts handled on either racks or monorail systems. High velocity directional and adjustable jet nozzles reduce drying time to minimum. Combinations of hot and cold air drying are employed; cold blast removes water by mechanical action, leaving film which is removed by following hot air blast. Air for drying can be heated by steam, gas or electricity; and provision is made for recirculation of heated air. Fans, heating units and motors are located within framework, and where space permits, dryers can be suspended from ceiling. Components are easily accessible for periodic inspection and maintenance. Made by **Optimus Equipment Co.,** 169 Water St., Matawan, N. J.

▲ Mention Item NED-3308 when writing ▲

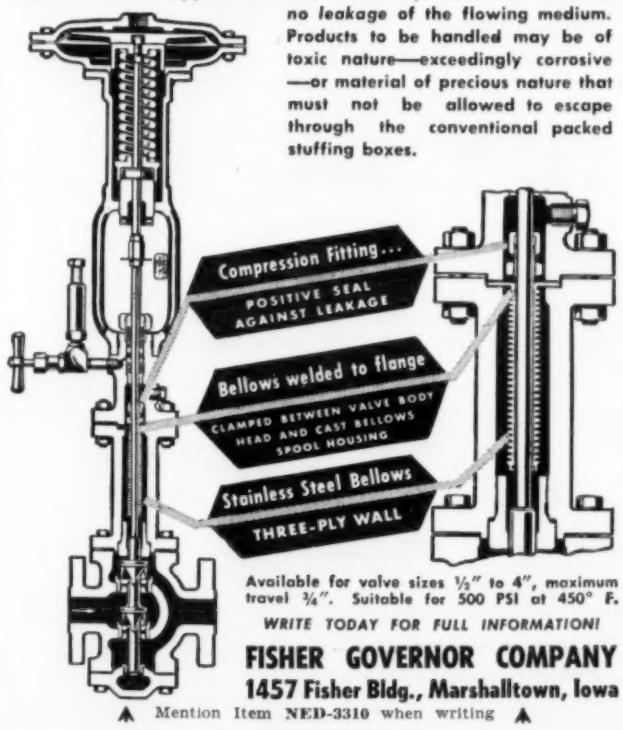
CORRECTION

In Item NED-1695 in the March 1949 issue on stainless steel meters for handling corrosive liquids it was erroneously stated, "Models DV 1-inch and GV 2-inch have working parts of 318 stainless steel." These parts are of type 316 stainless steel. Meters made by **Buffalo Meter Co.,** 2917 Main St., Buffalo, N. Y.

▲ Mention Item NED-3309 when writing ▲

SEALED

Fisher Bellows Seal stuffing box meets the rigid requirements of automatic control applications where it is imperative that there be no leakage of the flowing medium. Products to be handled may be of toxic nature—exceedingly corrosive—or material of precious nature that must not be allowed to escape through the conventional packed stuffing boxes.



Available for valve sizes ½" to 4", maximum travel ¾". Suitable for 500 PSI at 450° F.

WRITE TODAY FOR FULL INFORMATION!

FISHER GOVERNOR COMPANY
1457 Fisher Bldg., Marshalltown, Iowa

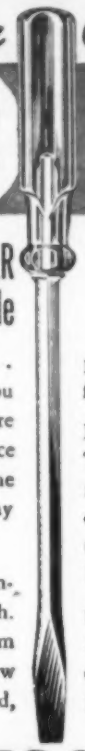
▲ Mention Item NED-3310 when writing ▲

the BEST in Quality tools!

END VIEW

DURO-CHROME

take this SCREWDRIVER for example



Notice the square, fluted handle . . . it's made that way so you can get a good grip for more leverage. Pick it up . . . notice how comfortably it fits the hand, and it won't roll away when you lay it down.

The Durolite handle is non-conducting and plenty tough. The blade is forged from chrome alloy-steel, hollow ground, accurately tempered, polished and chrome plated for EXTRA protection.

Like other Duro-Chrome Tools, nothing is spared to make it the finest that money can buy. Each screwdriver has that instantly recognized Duro Quality.

DURO METAL PRODUCTS CO.
2649 North Kildare Avenue,
Chicago 39,
Illinois.

DURO TOOLS (HAND TOOL DIVISION)
The Mechanic's Best Friend
OVER A BILLION BUILT SINCE 1916

ALSO MAKERS OF DURO MACHINE TOOLS

▲ Mention Item NED-3311 when writing ▲

FROM ONE RELIABLE SOURCE

ENGINEERED CONTAINERS for EVERY PACKING PURPOSE!

Send for free booklet

GENERAL BOX COMPANY . .
★ ★ ★ ★ ★ engineered shipping containers

GENERAL OFFICES: Corner of Illinois and Dearborn Streets, Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon, Natchez • Continental Box Company, Inc.: Houston, Dallas

▲ Mention Item NED-3312 when writing ▲

YOUNG RADIATOR CO.
General Offices: Racine, Wisconsin, Dept. 819-E
Plants at Racine, Wisconsin, and Mattoon, Illinois
Sales and Engineering Offices in All Principal Cities

▲ Mention Item NED-3313 when writing ▲

The World's Most Powerful Pistol-Type Drill For Its Weight — *The Hole-Shooter!*

HOLE-SHOOTER PERFORMANCE
21 times Better

Here's facts: a big producer of metal fabricated items planned to re-equip its plant. Among tools needed were heavy-duty, pistol-grip, electric drills. Several makes were placed on production line doing exactly the same work. All drills operated continuously 24 hours a day for 3 weeks.

Here's results: The Milwaukee HOLE-SHOOTER outperformed and outworked all competitive makes tested. What's more, they required maintenance attention only once against 21 times for all others.

Specifications
- Milwaukee Electric Tool built motors — AC or DC — 115V.
- Exclusive split-body design — brushes, switch, commutator and wiring accessible without dismantling.
- Av. net wt. 3½ lbs.
- Jacobs Chucks.

SIZE • SPEED • PRICE
Model 1A — ⅜" — 650 rpm.....$42.00
Model 2A — 5/16" — 1000 rpm.....$40.00
Models 3A, 4A, 5A — ¼" — 2000, 3500, 5000 rpm.....$38.00

Milwaukee — 1949 OUR SILVER ANNIVERSARY YEAR
QUALITY TOOLS

MILWAUKEE ELECTRIC TOOL CORP.
5320 WEST STATE STREET MILWAUKEE 8, WISCONSIN
Mention Item NED-3314 when writing

PICKIN' 'EM UP and LAYIN' 'EM DOWN in exactly the RIGHT POSITION

Motorized
HOPPER UNIT

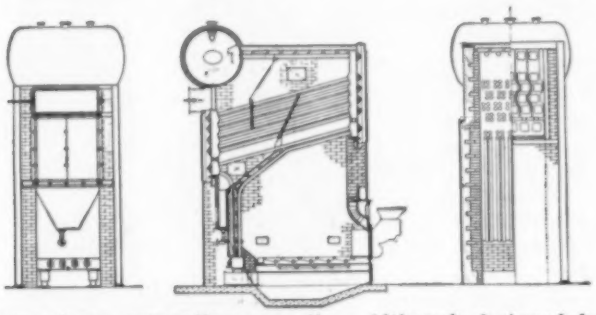
SEND SAMPLE PARTS FOR QUOTATION

The precision and efficiency with which these machines operate is something remarkable. It's a fascinating sight just to see them perform. They are versatile, sturdy, speedy, and widely adaptable—Used with centerless grinders, thread rolling and slotting machines and special machines. They feed screws, screw-blanks, rivets, pins, discs, steel balls, washers and special parts. They are completely motorized and are self-contained units.

DETROIT POWER SCREWDRIVER CO.
2819 W. Fort St. Detroit 16, Mich.
Mention Item NED-3315 when writing

STANDARDIZED BOILERS

Permitting near straight-line operating efficiency over wide load range, type M series of six standardized water tube boilers includes sizes with 7500 to 17,000 pounds per

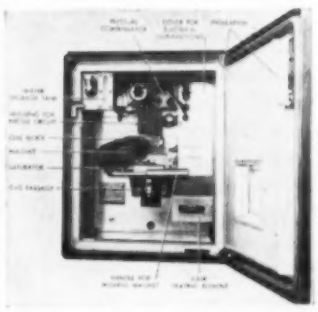


hour steam generating capacity. Although designed for coal firing with standard stokers, they can be adapted readily to oil or gas firing without major change. Through use of water wall type construction on rear wall and arch over combustion chamber, considerable portion of steam generating surface absorbs radiant heat with consequent improved operating efficiency.

Boilers are constructed with two standard tube lengths, 10 and 12 feet, expanded into sinuous electric steel sectional headers. Furnace width varies from 4 feet 7½ inches to 9 feet, depending upon number of header sections used. All boilers have 48-inch diameter steam drums built to various pressure standards from 160 to 320 pounds per square inch. Overall setting height is 18 feet for all sizes. Made by **Springfield Boiler Co.**, 1949 E. Capitol Ave., Springfield, Ill.

Mention Item NED-3316 when writing

OXYGEN METER

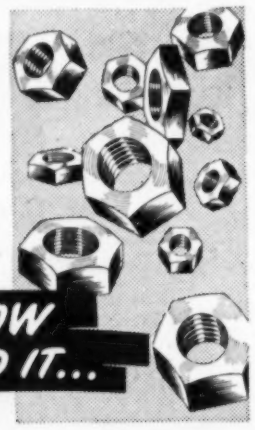


Utilizing paramagnetic property of oxygen, Magno-Therm oxygen meter will continuously analyze, indicate and record percentage of this element in boiler flue and industrial gases. Applications of device include use on catalyst regenerators, in determining explosive atmospheres and for determining combustion efficiency. Chemicals, liquids, gaseous fuels, and combustion are not involved in its operation.

Gas to be analyzed is passed through cell block in which there are two cells containing heated resistors, and strong magnetic field from permanent magnet is directed across resistor of one measuring cell. Oxygen bearing gas is attracted into magnetic field, becomes heated by hot resistor and loses its magnetism. As oxygen loses its magnetism, it is forced out of magnetic field and is replaced by cooler more magnetic portion of sample. Cooling effect on heated resistor is proportional to magnetism of gas entering cell, and this changes its resistance and increases flow of current through it. Change in flow of current is compared with flow of current in reference cell which is without magnetic field, and difference in resistance is measured by Acratron electronic type recorder calibrated to read in per cent oxygen. Made by **Hays Corp.**, 980 Eighth Ave., Michigan City, Ind.

Mention Item NED-3317 when writing

FROM 25-125 erratic threaded holes per tap
TO 22,000 clean class 3 threaded holes per tap



HERE'S HOW HY-PRO DID IT...

PART: 18-8 stainless steel hex nut with punched hole

PROBLEM: Tapping with a 10-24 tap, a leading nut manufacturer experienced difficulty holding size and was troubled with excessive tap breakage.

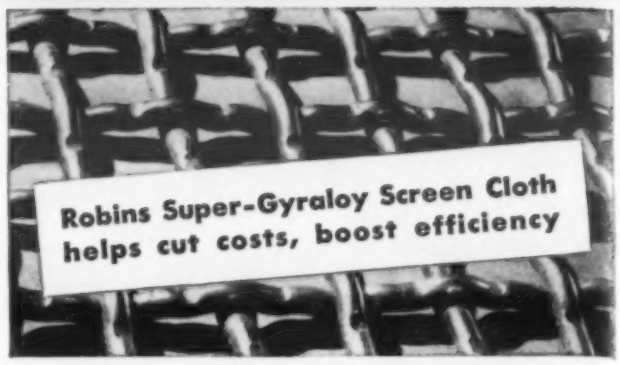
Then They Called in the HY-PRO Sales Engineer

HY-PRO SOLUTION: His recommendation was a standard Hy-Pro 10-24 machine screw tap with one of the exclusive Hy-Pro surface treatments for wear and lubrication. Speed and cutting oil were adopted from extensive tables in Hy-Pro catalog. Production with Hy-Pro taps now averages 22,000 burr-free Class 3 threaded holes at 62 nuts per minute.

℞ Let Hy-Pro solve your tapping problem too—call a Hy-Pro Sales Engineer today.

Order from your Distributor

HY-PRO TAPS
HY-PRO TOOL CO.
NEW BEDFORD, MASSACHUSETTS
A SUBSIDIARY OF CONTINENTAL SCREW COMPANY
Mention Item NED-3318 when writing



You name the screening job! Robins Super-Gyraloy Screen Cloth will help you do it more efficiently, more economically. Here's why!

IT'S TOUGH! Super-Gyraloy Screen Cloth is built to withstand more shock than any other screen cloth material.

IT'S HARD! Special alloy, oil-tempered wire makes this screen cloth harder, stronger than any other used for screen cloth.

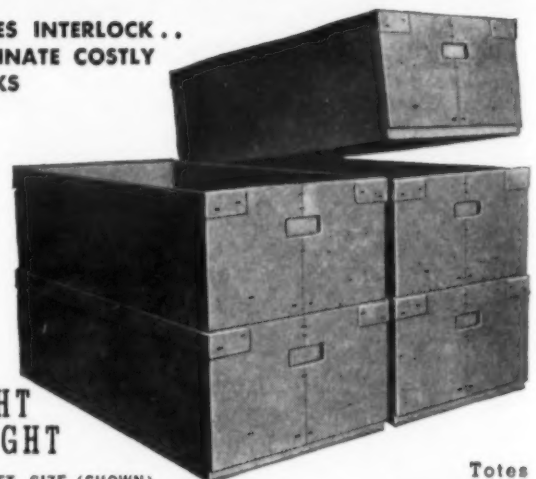
IT'S DUCTILE! You can bend it around its own diameter without breaking it.

Why not let Robins Super-Gyraloy Screen Cloth help cut your screening costs, boost your screening efficiency. It's available in sizes ranging from 15-gauge wire, 1/8" opening to 5/8" rod, 6" opening. For details, write Robins today!

ROBINS SCREEN CLOTH
Robins Conveyors Division
Hewitt-Robins Incorporated
Passaic, New Jersey
Mention Item NED-3319 when writing

LOW-COST STACKING TOTE BOX

BOXES INTERLOCK.. ELIMINATE COSTLY RACKS



LIGHT WEIGHT

2 CU. FT. SIZE (SHOWN) WEIGHS ONLY 8½ LBS.

CHEMICALLY HARDENED CORRUGATED BOARD

OVER 8 STOCK SIZES OF STACKING BOXES AVAILABLE NOW

Write for Details

Totes more payload, costs less money—Convoy Tote Boxes cost 50% to 60% less, weigh 50% to 60% less than steel.

Strong, Durable — many Convoy Tote Boxes have been in daily production use for more than two years. No Maintenance—so inexpensive that they can be discarded when they finally become unserviceable.

CONVOY, INC. Dept. N CANTON 7, OHIO
Mention Item NED-3320 when writing

Empco JACKS . . . just a twist of the wrist and your machines are LEVELED!

To lower, turn screw to left.
To raise, turn screw to right.

SELF-ALIGNING
SMOOTH, ACCURATE POSITIVE ADJUSTMENTS!

Machine Tool Manufacturers strongly emphasize the need, not only to set machines level, but to keep 'em that way. Periodic re-leveling is essential for accurate work tolerances. How often, depends on the type of foundation. No method of machine setting is stable enough to maintain the accuracy of initial leveling. It is important to check after first month of operation, then check periodically and re-level whenever necessary.

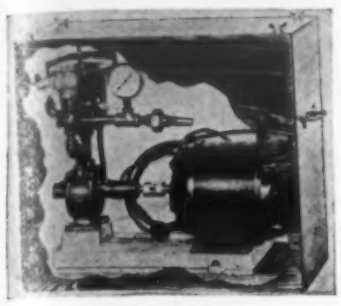
When a machine is set on EMPCO JACKS, the whole operation is the work of but a moment: Simply apply a wrench to the "hex" screw head, turn right or left until your level indicator reads "zero".

AVAILABLE in 3 SIZES
No. 1 2" normal height
No. 2 2⅜" normal height
No. 3 3⅛" normal height

EMPCO
THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVE. DETROIT 12, MICH.
Mention Item NED-3321 when writing

LEIMAN BROS. ROTARY POSITIVE

VACUUM PUMPS



A PORTABLE UNIT

AIR MOTORS
GAS BOOSTERS
PRESSURE BLOWERS
with the
Curved Wings
that
Take Up Their
Own Wear

Used in all industries for picking up and carrying sheets of paper, cardboard, tin or other materials; handling liquids by vacuum or pressure as in bottle filling operations; also for agitating solutions, aerating water as in fish aquariums and elsewhere. They operate vacuum printing frames; vacuum canning machines, cooling linotype machine molds, gas and oil burning appliances, furnaces, blowpipes, etc., used in hospitals for etherizing, vacuum treatments, wound cleaning in operations; in filling bags, cartons, collapsible tubes, and containers of all sorts; for creating instant and high heat in steam radiators; for vacuum holding chucks and for hundreds of other uses

Get Bulletin LEIMAN BROS. 167-1 Christie St., Newark 5, N. J.

▲ Mention Item NED-3322 when writing ▲

RETAINING RINGS

Cut Costs Again!

These little IRC controls, no bigger 'round than a nickel, save space in hearing aids, pocket radio receivers and miniature instruments and meters.

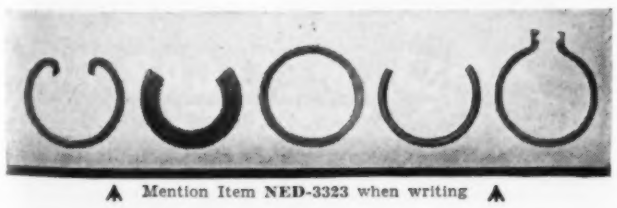
Alert designing of these very efficient little Fingertip Volume and Tone Controls cut costs both in material and assembly. And on other IRC Controls our retaining rings are saving money for IRC as well as for their customers.

National rings are being used on hundreds of improved products and machines; on heavy duty engines; on great drill presses; on hand trucks; on clothes dryers; and on other products skillfully redesigned by smart engineers.

Keen manufacturers are eliminating the old practice of cutting down shafts to make shoulders, because it's a needless waste. Instead, they are grooving shafts and housings for application of these efficient yet inexpensive artificial shoulders.

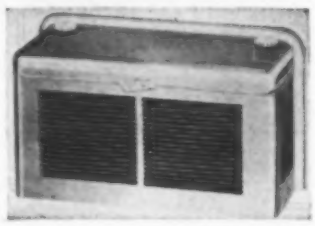
Write today for retaining ring folders.

THE NATIONAL LOCK WASHER COMPANY
NEWARK 5, N. J. MILWAUKEE 2, WISCONSIN



▲ Mention Item NED-3323 when writing ▲

ROOM AIR CONDITIONER



Furnished as complete self-contained package units, Mitchell air conditioners perform air cooling, dehumidifying, filtering, circulating and ventilating. They can be installed easily in double-hung sash window, plug into 110-125-volt 60-cycle alternating current outlet, and require no plumbing connections. Two simple controls regulate all functions. Refrigeration mechanism is hermetically sealed, and motors are self-lubricated and sealed for dependable service-free operation. Sound insulation and rubber mountings assure quiet service.

Two models are available. No. M-34 ¾-horsepower conditioner designed for use in large rooms has rated capacity of 8876 British thermal units per hour. Intended for medium and small rooms, illustrated model M-12 ½-horsepower unit has capacity of 5580 British thermal units per hour. Made by **Mitchell Mfg. Co.**, Dept. N-2, 2525 Clybourn Ave., Chicago 14, Ill.

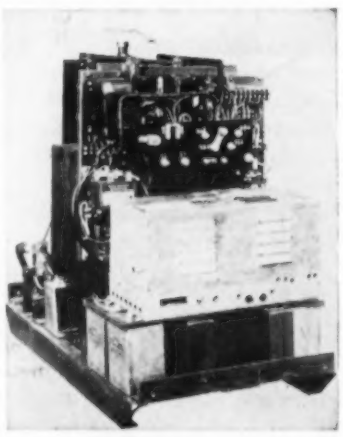
▲ Mention Item NED-3324 when writing ▲

POCKET BATTERY TESTER

Condition of all dry batteries in 1.5 to 90-volt range can be checked under load quickly with this model 698 pocket-size battery tester. Three-color "Low-?-Good" scale gives quick indication of battery condition, and calibrated scales permit actual voltage readings to be made. Tester is housed in compact molded plastic case and is equipped with test leads. Made by **Triplett Electrical Instrument Co.**, Bluffton, O.

▲ Mention Item NED-3325 when writing ▲

HIGH FREQUENCY WELDER



Employing full-wave self-rectifying single-tube type oscillator and torch, Federal Communications Commission approved Sureweld Gasarc high frequency welding unit will remain on assigned frequency of 27,120 kilocycles regardless of working or weather conditions. Torch is tuned also to prevent radio or television interference while transferring high frequency energy from oscillator to welding arc. With arc shielded by inert gases such as helium or argon, unit will weld magnesium, aluminum, copper, bronze, stainless and light gage steel. Welder is produced in six models ranging from 150 to 750 amperes in capacity. Made by **National Cylinder Gas Co.**, 840 N. Michigan Ave., Chicago 11, Ill.

▲ Mention Item NED-3326 when writing ▲

MADE TO ORDER

Unusually accurate metal parts including operations such as heading, rotary swaging, roll threading, fluting, knurling, pressing, milling, turning, grinding, forming, etc.

Single and double tenon studs turned on specially designed machines, held to close diameter tolerances, with no cut-off burrs.

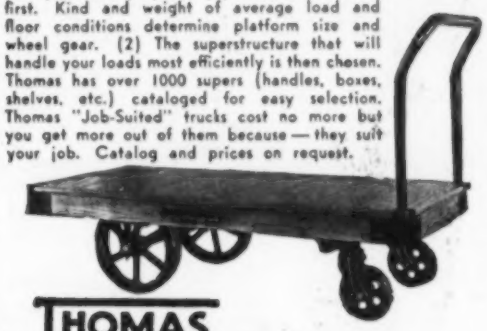
Uniform heat treatment assured with the very latest equipment.

The Torrington Company
SPECIALTY DEP'T.
Torrington, Conn., U.S.A.

▲ Mention Item NED-3327 when writing ▲

This THOMAS Truck
made with many different
STAKES, SHELVES,
RACKS, BOXES, and HANDLES

How Thomas men help you "Job-Suit" trucks for your particular purpose: (1) Chassis is selected first. Kind and weight of average load and floor conditions determine platform size and wheel gear. (2) The superstructure that will handle your loads most efficiently is then chosen. Thomas has over 1000 supers (handles, boxes, shelves, etc.) cataloged for easy selection. Thomas "Job-Suited" trucks cost no more but you get more out of them because — they suit your job. Catalog and prices on request.



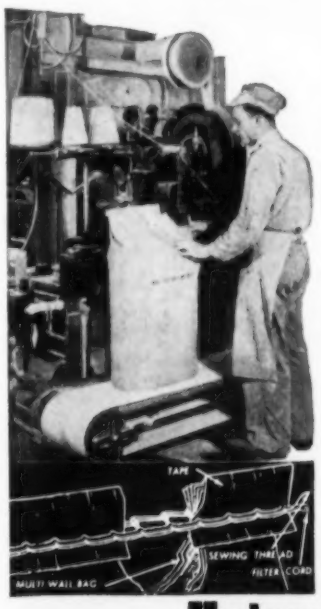
THOMAS
"JOB-SUITED" TRUCK

Series 3400 hardwood platform truck with round corners. Made in 10 sizes. Illustrated above with type A superstructure. Tubular steel push handle 40" above floor. Moulded-on rubber tired wheels, Hyatt bearings. Thomas makes many other types of 2 and 4 wheel trucks, casters and wheels. Write for catalog. *Representatives in principal cities*

THOMAS TRUCK AND CASTER CO.
3260 Mississippi River Keokuk, Iowa

▲ Mention Item NED-3328 when writing ▲

for greater security . . .
tape bound
. . . the Union Special closure for
Paper Bags



Here is the equipment for closing large size multi-wall paper bags: Union Special's Style 21800 H table type bag closing machine with Style 80600 H sewing head. Specially designed to produce a tight, durable, economical closure at high speed. The machine applies a paper tape binding, folds it over the top of the bag, automatically inserts a filter cord, and sews through the bag top in a smooth, continuous operation. For easy handling of bags, standard units are equipped with a five-foot, adjustable, power-driven conveyor. Ask for Bulletin No. 200.

Union Special *Machine Company*
416 NORTH FRANKLIN STREET • CHICAGO, ILLINOIS

▲ Mention Item NED-3329 when writing ▲

new sander
PORTABLE ELECTRIC

STERLING century SANDER

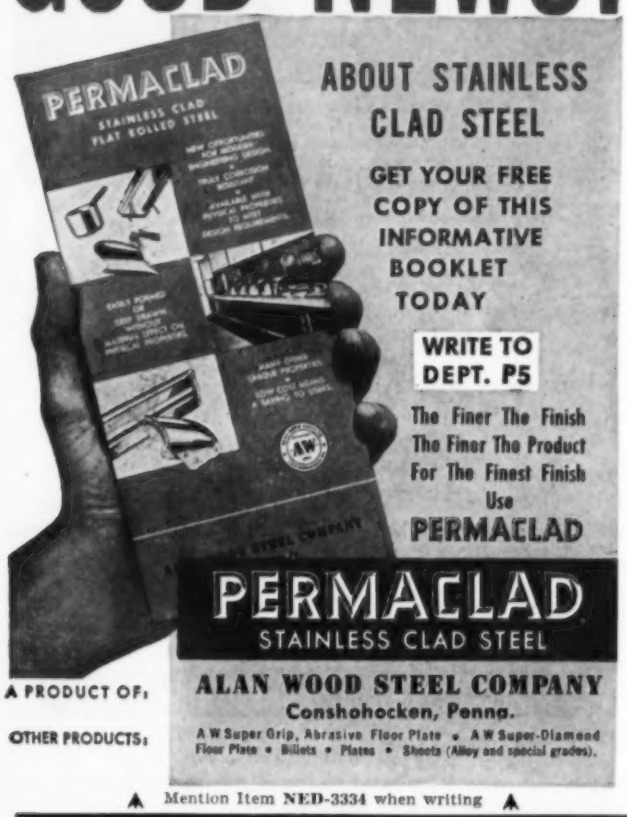
Easiest-to-use, fastest, safest sander . . . the new low cost Sterling Century! Uniformly sands wood, metal and composition—flat or curved surfaces. Only 4 inches high—pad speed 5000 r.p.m. Uses ½ standard abrasive sheet. Powerful, durable, built for long, continuous use! Send coupon for catalog.

STERLING STP TOOL PRODUCTS CO.
STERLING TOOL PRODUCTS CO.
1336-C Milwaukee Ave., Chicago 22, Illinois
Canada: Terminal Warehouse, Dept. 27, Toronto 1
Send folder on New Sterling Century Sander

FIRM NAME
ATTENTION
STREET CITY STATE

▲ Mention Item NED-3330 when writing ▲

GOOD NEWS!



ABOUT STAINLESS CLAD STEEL

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WRITE TO DEPT. P5

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The Finer The Product
For The Finest Finish
Use
PERMACLAD

PERMACLAD
STAINLESS CLAD STEEL

A PRODUCT OF: ALAN WOOD STEEL COMPANY
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OTHER PRODUCTS: A W Super Grip, Abrasive Floor Plate • A W Super-Diamond Floor Plate • Billets • Plates • Sheets (Alloy and special grades).

Mention Item NED-3334 when writing

Your Name Please

LET US SEND YOU ONE FREE

Bulletin No. 49

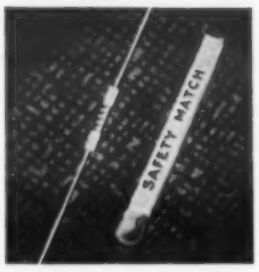
Contains facts on outstanding developments in Motorized Hand Trucks — shows why MOTO-TRUCS are the first choice of materials handling engineers.

WRITE US NOW

The MOTO-TRUC Co.
1953 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

Mention Item NED-3335 when writing

MINIATURE RESISTORS



Designed for use in all types of miniature electronic units, Carbofilm resistors are available in sizes from ¼ to 1 watt, in values from 20 ohms to 5 megohms and with tolerances of ½ to 1 per cent. Smallest resistor in line measures 1/16-inch diameter over caps and 3/8-inch in overall length, with 1½-inch tinned copper leads. They can be supplied insulated. Made by **Wilkor Products Inc.**, 3842 West 150th St., Cleveland 11, O.

Mention Item NED-3336 when writing

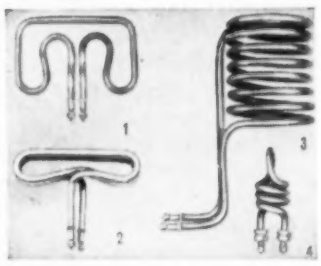
JUSTIFYING TYPEWRITER

Designed particularly for use in preparation of bulletins, sales letters, portfolios, house magazines, office forms and similar original copy to be reproduced by any method of printing, automatic justifying typewriter incorporates built-in feature to provide even right-hand margin on typewritten copy. This feature does not in any way interfere with use of machine for routine office typing.

Justifying is accomplished by means of variable pitch rack, ends of which extend beyond carriage on both right and left sides of machine. Right extension is for purpose of turning rack; and left extension, inscribed with numbers 1, 2, 3, 4, 5 and 6, is for guidance of operator. Rack can be turned easily to any one of these numbered positions, making it possible to expand typewritten line one, two, or three spaces or contract line one or two spaces. Made by **Underwood Corp.**, Dept. NED, 1 Park Ave., New York 16, N. Y.

Mention Item NED-3337 when writing

HEATING ELEMENTS



Makeshift means for spot heating in industrial, commercial and institutional applications are eliminated by electric heating element engineering and design service. Electrical heating elements in castings of aluminum, bronze, gray iron and Meehanite can be furnished in any wattage and voltage specified.

Shown in illustration are four examples of heating elements designed to meet specific requirements: (1) unit to be cast into aluminum scraper for quick defrosting of deep freeze units; (2) unit ready for casting into bronze branding iron; (3) element used on plastic molding machine heating cylinder; and (4) element for portable steam vaporizers such as are used in hospitals, tailor shops and shoe making. Made by **Thermel, Inc.**, Dept. A, 4501 W. Lake St., Chicago 24, Ill.

Mention Item NED-3338 when writing

More OEM's* Specify US Gauge Than Any Other Make

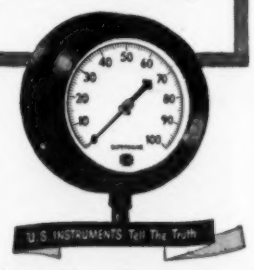
...Because USG Assures More Value

* ORIGINAL EQUIPMENT MANUFACTURERS

OEM'S know that US Instruments give more service, more accuracy, more value for the money. They know USG can supply all their needs for gauges measuring as low as 1" of mercury absolute, to gauges measuring up to 100,000 lbs. pressure per square inch. When ordering gauges, do as 6 out of 10 OEM'S do ... Specify US Gauge. Write for literature. United States Gauge, Division of American Machine and Metals, Inc., Sellersville 12, Penna.

Pressure, Temperature, Flow and Electrical Measuring Instruments

USG UNITED STATES GAUGE



Mention Item NED-3339 when writing

CMH REX-TUBE

(Type RT-15)

the economical, dependable fully interlocked flexible metal hose

CMH REX-TUBE, Type RT-15, flexible metal hose offers users seven important advantages which add up to dependability with economy —

1. **HIGHLY FLEXIBLE**—Fully interlocked construction.
2. **DURABLE**—Manufactured of bronze or steel.
3. **VERSATILE**—Suitable for conveying steam, tar, asphalt, vegetable oils, hydrocarbons, as examples.
4. **NON-AGING**—Durable metal construction.
5. **NON-CONTAMINATING**—Corrosion resistance of metal.
6. **NON-COLLAPSIBLE**—Does not collapse or get out of round, hence maintains full flow area.
7. **NO JOINTS TO PACK**—The hose takes the motion, not the couplings.

Write today for complete information

CMH CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS
Plants at Maywood, Elgin and Rock Falls, Illinois
In Canada: Canadian Metal Hose Company, Limited, Brampton, Ontario

Mention Item NED-3340 when writing

FOR CLEANER FLOORS

IT'S LAWLOR

Don't care what kind of floor you have — what its size or condition may be — there's a right Lawlor to clean and wax polish it in a jiffy!

For 50 years Lawlor has specialized in improved floor cleaning equipment — anything from heavy-duty, electrically operated scrubbing units to mopping and wringer sets.

A Size for Every Need

Write today for new Catalog.

S. C. LAWLER CO., 131 N. Aberdeen St., Chicago 7, Ill.

Mention Item NED-3341 when writing

CHAMPIONSHIP PERFORMANCE

11 YEARS SERVICE - NO COST FOR UP-KEEP

One lone spindle was the only damage suffered when a heavy crate dropped on a section of Metzgar Portable Conveyor, that had been in constant, cost free service for eleven years.

The spindle was ruined, but the wheel still spun freely—thanks to Metzgar's sturdy Labyrinth Ball Race that is dust free and shock proof.

You can't beat a Metzgar for sturdy economical performance.

100% OPERATING EFFICIENCY from EVERY WHEEL

METZGAR
METZGAR CO.
416 Douglas St., N. W.
GRAND RAPIDS 4, MICH.

Mention Item NED-3342 when writing

Save time and labor on many jobs—wood or metal—with an American Speedy Spinner Disc Sander! Small, portable. Semi-flexible 5½" disc allows many uses of the Speedy Spinner on curved or flat surfaces. Also, complete attachments for polishing, drilling, paint mixing. Speeds up production—cuts costs! Light weight, 5 lb. 10 oz. . . . 1200 r.p.m. disc speed . . . heavy duty motor. Quality construction . . . dependable. Write for catalog and price. The American Floor Surfacing Machine Co., 524 So. St. Clair St., Toledo 3, Ohio.

AMERICAN PORTABLE TOOLS

▲ Mention Item NED-3343 when writing ▲

THREAD CUTTING BROACH

Interchangeable with standard taps and usable in tapping machines, automatics, turret lathes or any machine adapted for tapping operations, Shearcutter thread cutting broaches produce threaded holes by broaching action. Illustration shows how chips being removed are curled up in one piece and how they flow out of hole being threaded, thus preventing interference with cutting action of broach. Tests indicate that less torque is required to form threads with these broaches than with conventional taps. They can be resharpened easily on tool and cutter grinder. Made by **Shearcut Tool Co.,** Dept. ME 98, Box 746, Reseda, Calif.

▲ Mention Item NED-3346 when writing ▲

FIRE EXTINGUISHER

Available both in soda-acid and foam types, this stainless steel fire extinguisher has 2½ gallon capacity. Because of its light weight, it can be handled easily, as shown in illustration, in industrial plants and in offices predominantly staffed by women. Use of stainless steel not only reduces weight but enhances unit's appearance by virtue of its lustrous finish. To assure maximum safety, each unit is factory tested to 500 pounds per square inch pressure instead of customary 350 pounds. Made by **Buffalo Fire Appliance Corp.,** Dept. D, Dayton 1, O.

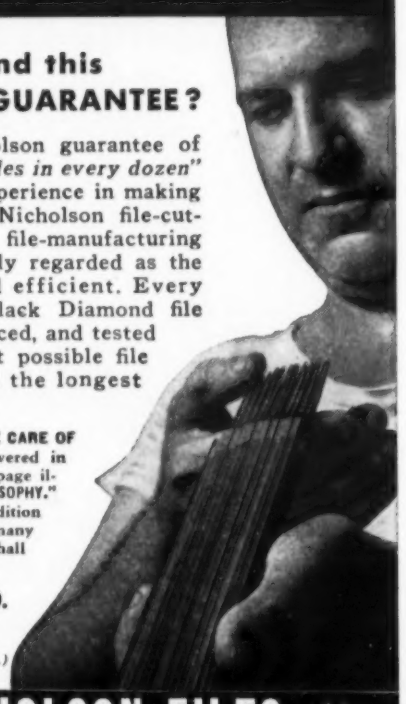
▲ Mention Item NED-3347 when writing ▲

JET PUMP MOTORS

Of flat face type suitable for either vertical or horizontal mounting, B-Line jet pump motors are available in single-phase capacitor-start induction-run 115-230-volt models rated from 1/6 to 1 horsepower and with automatic thermal overload protector. Two or three-phase squirrel-cage induction types to operate on 220-440 volts can be furnished in sizes from ½ to 1 horsepower. Also obtainable are compound wound 115-230-volt direct current motors from ½ to 1 horsepower. All motors have standard NEMA dimensions and operate at 3450 revolutions per minute at 60 cycles and 2850 revolutions per minute at 50 cycles. Made by **Brown-Brockmeyer Co.,** 1002 Smithville Rd., Dayton 1, O.

▲ Mention Item NED-3348 when writing ▲

TWELVE PERFECT FILES IN EVERY DOZEN



What's behind this SWEEPING GUARANTEE?

Behind the Nicholson guarantee of *"Twelve perfect files in every dozen"* are 85 years of experience in making files *exclusively.* Nicholson file-cutting machines and file-manufacturing methods are widely regarded as the most modern and efficient. Every Nicholson and Black Diamond file is designed, produced, and tested to assure the best possible file performance and the longest possible file life.

HOW TO USE AND TAKE CARE OF FILES is elaborately covered in Nicholson's famous 48-page illustrated book, "FILE FILOSOPHY." This new, up-to-date edition just off the press. How many copies for "key" uses shall we send you? FREE.

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Providence 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON FILES
FOR EVERY PURPOSE

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QUICK SAND BLASTING *of small parts*

SLY No. 4 TILTED BLAST MILL

● Used extensively to clean small castings, forgings, stampings, tools, etc., on a production basis. Handles non-ferrous castings — cores and all — saves core removal time. Effectively cleans heat treat scale from hardened steel parts without damage to sharp edges. Because of tilted barrel, it thoroughly mixes the load, exposes all surfaces to blast in shortest time. Automatic — requires but little attention.

Ask for Bulletin No. S-82

THE W. W. SLY MFG. CO.
4748 Train Avenue • Cleveland 2, Ohio
Representatives in New York • Chicago • St. Louis • Philadelphia • Detroit
Minneapolis • Birmingham • Cincinnati • Los Angeles • Rochester • Toronto

▲ Mention Item NED-3345 when writing ▲

For easy handling of Steel Plate, Use

DUFF-NORTON PUSH AND PULL JACKS

These powerful jacks—in 10 to 15 ton capacities—will push apart or pull together heaviest steel plates, sheets, beams—sides and ends of steel cars—sections used in erection of bridges, docks, piling, tanks, etc. Can be used with chains, hooks or pipe sleeves for a greater range of applications. Overall lengths 24" to 38" or longer.

Call your industrial distributor today, or write us for complete data and prices.

The Duff-Norton Manufacturing Co.
PITTSBURGH, PA.
Leading Industrial Distributors Handle Duff-Norton Jacks

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Why 4 out of 5 Shops re-order NI-ROD

Of all plants that tried NI-ROD* welding electrodes, *82 per cent became regular users.* That is what the sales records of a NI-ROD distributor show.

Here are some reasons why NI-ROD is preferred by so many welding shops:

- **NI-ROD makes strong, crack-free, non-porous welds in *cast iron.***
- **NI-ROD welds are fully machinable.**
- **NI-ROD saves time; rarely requires any special preparation such as preheating.**
- **NI-ROD is easy to use; has a stable arc.**
- **NI-ROD works on both AC and DC.**

Let NI-ROD prove its way in your own shop. Order a five-pound package today. Your distributor stocks it in 3/32", 1/8", 5/32" and 3/16" diameters. *Reg. U. S. Pat. Off.

THE INTERNATIONAL NICKEL COMPANY, INC.
69 Wall Street, New York 5, N. Y.

▲ Mention Item NED-3350 when writing ▲

For unique advantages with standard reproduction equipment . . . Kodak

THE BIG Kodagraph Reproduction Papers NEW PLUS

1. **Kodagraph Autopositive Paper** . . . can be exposed in any direct-process or blueprint machine . . . processed in standard developing solutions. The first low-cost photographic intermediate material . . . the first that produces positives directly without a negative step . . . the first that can be handled under normal lighting.
2. **Kodagraph Contact Paper** . . . a low-cost, uniform, wide-latitude product made especially for contact-type photocopiers. It simplifies printing, processing . . . produces sparkling, flat-lying, more legible copies . . . provides maximum economy.
3. **Two new Kodagraph Projection Papers** . . . for use in enlargers, projection printers, process cameras. One type allows plentiful safelight illumination, ample time for dodging; the other provides maximum printing speed.

Learn more about the quality, the performance of these new Kodagraph Reproduction Papers. Mail coupon today for free booklet.

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.

"Kodak" is a trade-mark

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Industrial Photographic Division
Rochester 4, N. Y.

Please send me a free copy of "The Big New Plus," which tells the story of this new line of Kodak papers. I have ☐ direct process ☐ blueprint ☐ contact printing ☐ projection equipment.

Name _____ (please print)
Department _____
Company _____
Street _____
City _____ State _____

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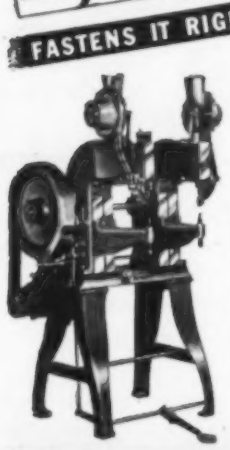

• In Chicago Automatic Rivet Setters from 1 to 4 tubular or split rivets are fed, inserted and clinched in a fraction of a second with each operating pedal release. Adjustment on some models permits handling different sizes of rivets. Riveting machine also adaptable for eyelets, grommets or drive screws.

FREE Fastening Analysis
Your output may be increased and cost reduced if you investigate. Send sample assembly and blue print.

Chicago Rivet
CHICAGO RIVET & MACHINE CO.
9606 W. Jackson Blvd., Bellwood, Ill. (CHICAGO SUBURB)
Tubular and Split Rivets In All Rivet Metals

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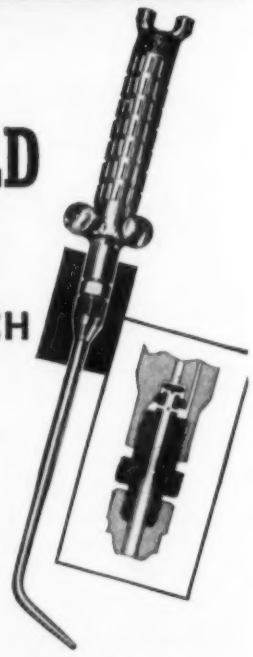
FOR LIGHT PRODUCTION WELDING

NCG's
TORCHWELD BANTAM
WELDING TORCH
with the revolutionary new "Stab-L-Flow" universal mixer

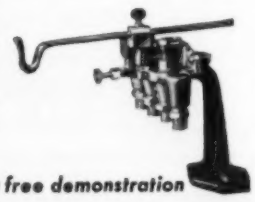


PROVED IN PERFORMANCE

If your problem is flame-welding aluminum, alloys, tubing, sheet metal and steel from 28-ga. to 3/8" thick —*here* is the torch that can add speed and quality to your work. The "Stab-L-Flow" mixer *really* stabilizes the flame for faster, better welding. The *truly* balanced handle with its easy, quick thumb adjustments reduces operator strain and fatigue to an absolute minimum. Thousands who refuse to use any other torch, can't be wrong. Find out *for yourself!*

GAS ECONOMIZER

When used with NCG No. 4360 Automatic Gas Shut-Off, the Torchweld Bantam can't be beat for efficient, economical light production. Let an NCG representative show you the set up.



Write for illustrated folders, or a free demonstration

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Pioneers in Electric Welding since 1920
846 North Michigan Avenue Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

Copr. 1949, National Cylinder Gas Co

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RECEPTACLE COVER

Drums, barrels or other containers can serve as waste receptacles when equipped with heavy steel TrasHatch cover. This lid is flanged and has integral hood and self-closing door. It fits any container and can be permanently fastened if desired. Gravity door, which opens inward only, provides a smothering seal against fire. Cover is of welded construction and finished in green enamel. Base diameter is 24 inches, and door opening is 11 inches square. Made by **W. T. Pettit & Sons,** Dept. C, 129 Center St., Youngstown, O.

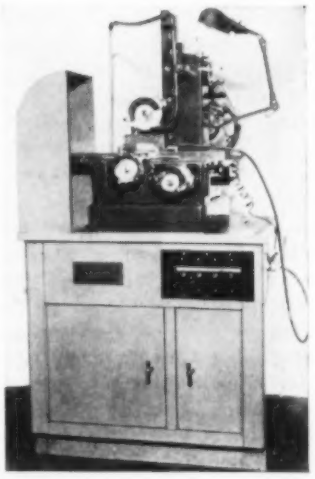
Mention Item NED-3354 when writing

SYNCHRONOUS MOTOR

Incorporating two step-cut balanced flat band spring rotor, this synchronous motor is self-starting and reaches full synchronous speed in fraction of a second. It develops 40 ounce-inches torque at 1 revolution per minute. Available in range of speeds from 1 to 720 revolutions per minute, motor can be furnished also with external gear reduction to provide output speeds of 1 revolution per 10 minutes to 1 revolution per 72 hours. When motor is turned off, solenoid brake attached to back of motor stops it instantaneously and eliminates coasting. Made by **Hagen Mfg. Co.,** Baraboo, Wis.

Mention Item NED-3355 when writing

SURFACE GRINDER



Having variable wheel speeds to provide flexibility, sensitive surface grinder has been designed for tool making and for grinding small parts. It grinds with wheel diameters ranging from 1/16 to 5 inches; and while primarily intended for sensitive work, it can be used for heavy roughing. Integral coolant system permits coolant to be directed on work from any angle. Gibs, ways, lead screws and other parts exposed to wear are of hardened and ground high-carbon high-chrome steel fully protected by dustproof and waterproof guards. Made by **Jakobsen Tool Co.,** 219 Glenwood Ave., Bloomfield 1, N. J.

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Bring your Bearing files up to date!

Send for latest Engineering Data on

ORANGE ROLLER BEARINGS

ORANGE Roller Bushings
High load-carrying capacity in small space. Quiet, long-life operation. Full range of standard sizes and types.

ORANGE Cage Type Needle Bearings
Cage holds rollers in permanent alignment with raceway. Even-running, longer life. Wide range of shaft sizes.

ORANGE "Staggered" Roller Bearings
Staggered roller arrangement provides greater capacity. Interchangeable with other solid race type bearings.

Write today for complete set of literature.

ORANGE ROLLER BEARING COMPANY, INC.
568 Main St. Orange, N. J.

Mention Item NED-3357 when writing

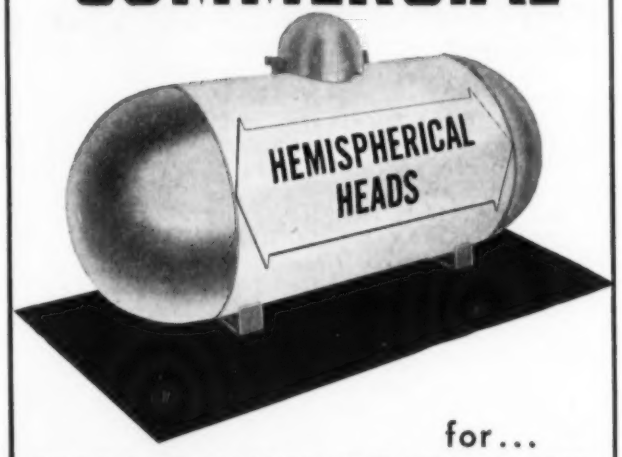
Husky!
TEMCO
ELECTRIC FURNACES
FOR HEAT TREATING TOOLS, DIES, PARTS IN YOUR PLANT

Bench type units in six chamber sizes ranging from 4" x 3½"x4½" to 8½"x7½"x18". Fast-heating for quick occasional jobs and sturdily built for hard continuous service. All steel bodies, heavy dual insulation, vertical opening doors. Heating elements embedded in sides, top and bottom of chamber. May be operated to 1650°F. continuously, 1900°F. intermittently. Choice of two types of automatic controls. 115 or 230-volt operation. Priced from $87.50 to $405.00. Investigate today . . . write for facts on complete TEMCO line or specify approximate size unit on which you wish details.

THERMO ELECTRIC MANUFACTURING CO.
484-5 W. Locust St., Dubuque, Ia.

Mention Item NED-3358 when writing

"COMMERCIAL"



for . . .
STORAGE TANKS · FLOATS · BUOYS ·
UNFIRED PRESSURE VESSELS
WRITE FOR FOLDER

THE COMMERCIAL SHEARING & STAMPING COMPANY
YOUNGSTOWN 1, OHIO

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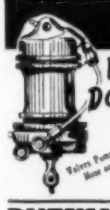
SAVE up to 85% on NEW WAR SURPLUS



New Double Acting **HYDRAULIC CYLINDERS**
51 Types, shapes. 1001 Labor Saving Adaptations for Pushing, Pulling, Lifting. Finest Precision Work, Materials. All Accessories, Fittings, Valves, Pumps.
15% OF GOV'T COST - WRITE FOR CATALOGUE

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AIR DRILLS OR MOTOR SPECIAL
with ¼" JCB Chuck ARO PISTOL $17.50
with ¼ Jcb Chuck

Also Nut Runners Screwdrivers Squeezers Angle Drills etc. Popular Makes

RIVET GUNS
Pistol & Goose-neck Type
E3, E2, 3X, Pistol 2X, OY $55 Value $8.95

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NEW DUST RESPIRATORS 200,000 in 5 different types with adjustable hd. bnds.

FOR PNEUMOCONIOSIS— producing dusts, road dusts, mists, & chromic acid mist, produced in crushing, mining, road building, abrading, farming, drought, painting, spraying, etc. Ideal for Farm, Mill, Factory, Garage, Foundry.

AMERICAN OPTICAL CO. RESPIRATOR
Style R-9100 small & compact especially suited to laboratory & hospital work. 59c ea.

Bi Valve Type 29c each in lots of 50.25c ea. 100 or more 19c ea.

COMFO RESPIRATOR dual-disc. Style BM-2101, with 10 extra filters a $3.50 value $1.59 each

Wilson Co. Dual Disc. Type J-750 with 10 Extra Filters. In appearance like BM-2101 $1.29 each

We stock Aluminum, Magnesium, Brass, Copper, Steel in sheets. Bar Tubing and Angles, Plexiglass, Lucite, Phenolic, A & N Fittings, Rivets, Bolts, Nuts, Aircraft Supplies. Just arrived - 5000 lbs. of ¼" and 5/16" Plexiglass in full sheets 36" x 48" - also 15,000 lbs full sheets of Nascolite 36" x 48" - all masked and new. Send for New 92-Page 1949 Catalog

PALLEY SUPPLY CO. DIVISION NED-5 6321 SAN FERNANDO RD. GLENDALE 1, CALIFORNIA

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MINNEAPOLIS-HONEY
ZENITH RADIO • BAUE
EASTMAN KODAK • SF
UNION CARBON AND

ELECTRONIC AMPLICALL INTERCOMMUNICATION

TIME-SAVER for Business, U.S.A.

Reaches Anyone in Your Business INSTANTLY

The list of AMPLICALL users reads like a "Who's Who" of American business. Big and small, each enjoys the time-saving advantages of this modern electronic communication system. The touch of a button provides instant speaking contact within and between all departments. Frees busy switchboards for outside traffic. Puts an end to wasteful walking, waiting, memo-writing and costly slowdowns. In plant and office, AMPLICALL pays for itself many times over by converting wasted time into working time. Get the full details on AMPLICALL today!

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your local AMPLICALL specialist, or write us direct

Electroneering is our business
SOUND EQUIPMENT Rauland INTER-COMMUNICATION
RAULAND-BORG CORPORATION • 3523-D ADDISON ST., CHICAGO 18, ILL.

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"M-B" Model U-TR
UTILITY Pneumatic GRINDER
60,000 RPM

A powerful, fast-cutting tool, streamlined in design, easy to handle. Designed for real production work and the toughest jobs. Precision made, excellent balance. Special grease-sealed bearings . . . no lubrication required. Fitted with steel housing, a special safety feature.

Write for Literature

Also Other Models

•

Automatic Air Line Filters and Lubricators

M-B PRODUCTS
130-134 E. Larned St.
Detroit 26, Michigan

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VEMCO DRAFTING MACHINES

Designed by Engineers for Engineers

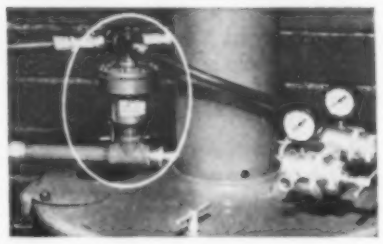
1 Convenient thumb-action indexing for every 15°.
2 Simple and positive band tightening device.
3 Flexibly articulated arms for easy head movement and flat-lying scales.

THE engineers responsible for the design of VEMCO Drafting Machines are thoroughly familiar with drafting problems. VEMCO Machines incorporate ALL the facilities desired by the engineer to fill his exacting needs. ★ The VEMCO offers smooth, effortless movement . . . positive setting and control for speed and accuracy . . . flexibility for convenient operation . . . elimination of an awkward assortment of drafting tools . . . sturdy construction for durability. ★ VEMCO Drafting Machines are finished in blue-green metallic color for eye comfort. ★ Ask your VEMCO dealer for a demonstration or write today for illustrated catalog covering drafting machines and drawing instruments.

V&E MANUFACTURING CO.
PASADENA 2, CALIFORNIA

▲ Mention Item NED-3363 when writing ▲

SURGE ELIMINATING VALVE



Easily attached to any type of air displacement pump in spray finishing setup, Steadyflow surge eliminating valve cuts pump in or out as spray gun is used. Valve prevents surging, puddling or gobbing when spraying begins, eliminates straining or separation of materials caused by constant high pressure, and produces smooth even spray. Valve can be used with any material and is especially useful with heavy compounds such as those employed for roofing, texture paints and acoustical coatings. Weighing less than 10 pounds, valve is small compact unit and does not require extra hoses to gun. Made by **A. Shelburne Co.,** 739 Ceres Ave., Los Angeles 21, Calif.

▲ Mention Item **NED-3364** when writing ▲

CENTER DRILL SET

Set of seven of the most popular sizes of center drills is packed in convenient wooden box with separate drill compartments and screw-on cover. Outside diameters range from 1/8 to 7/16-inch, and drills are made of 18-4-1 high speed steel with ground flutes for adequate chip removal. List price is $6.45. Made by **Keo Cutters,** 19324 Woodward Ave., Detroit 3, Mich.

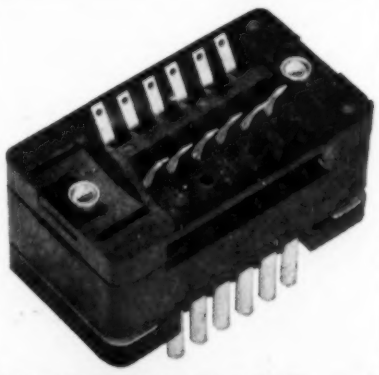
▲ Mention Item **NED-3365** when writing ▲

CONTROL VALVES

Designed for control of single and double acting cylinders in pneumatic or fluid circuits, CV control valve series has been increased by addition of cam operated model and foot controlled valve with spring return action. Foot operated valve permits close-to-floor operation to make possible applications not practical with previous models. Identical housing assembly for all models in same pipe size permits hand, foot, cam, electrical or pressure pilot operation and, in most instances, conversion from one to other without breaking line connections or dismounting valve. Automatic and semiautomatic sequences can be secured with either spring or pressure pilot actuation. Valves are available in 3/8 and 3/4-inch 18-port sizes. Made by **Modernair Corp.,** Dept. 72, 4222 Hollis St., Oakland 8, Calif.

▲ Mention Item **NED-3366** when writing ▲

CANNON PLUGS



. . . standard components on fine electrical and electronic equipment. After *33 years* of building electrical specialties, Cannon Electric continues to pioneer new and better types of connectors, maintaining its reputation for progress and development. In the 13 *major type series* of connectors will be found most of the requirements for quick disconnection of electrical circuits. For a survey of the general line, write for *Condensed Catalog.*

NEW SERIES of Radio Terminal Plugs

. . . is made expressly for radio chassis, wall or rack mounting installations, and is adaptable to other uses.

Contact arrangements in 12, 20, 24, 32, 36, accommodate nos. 18 or 20 wire, with a minimum flashover of 2500 volts, and amperage of 5 amps. Shell material is phenolic; solder pot and crimp-type contacts. Described and illustrated in *RTC-1 Bulletin* . . . Address Department E-113.

SINCE 1915
CANNON ELECTRIC Development Company
3209 HUMBOLDT ST., LOS ANGELES 31, CALIF.
Export: Frazar & Hansen, San Francisco; Canada: Cannon Electric, Ltd., Toronto

▲ Mention Item NED-3367 when writing ▲

Write for these two SPEEDAIRE bulletins

LEARN how Speedaire, Cleveland's fan-cooled, worm-gear speed reducer saves money, space and weight.
Because it is fan-cooled, Speedaire will do more work—will deliver up to *double the horsepower* of standard worm units of equal frame size.
Ask for Catalog 300 and "More Horsepower Per Dollar". The Cleveland Worm & Gear Company, 3283 East 80th Street, Cleveland 4, Ohio.

CLEVELAND Worm Gear Speed Reducers

For personalized service: Write or phone John E. Millikan Cleveland exch. VUlcan 3-4560

▲ Mention Item NED-3368 when writing ▲

Get BETTER PRODUCTS, LONGER TOOL and DIE LIFE with

PANGBORN "Hydro-Finish"

PANGBORN HYDRO-FINISH cuts cleaning, polishing, buffing costs to the bone! Eliminates many hand operations, produces a clean surface *faster* than by any other method. Uses fine mesh abrasives suspended in water and holds tolerances to .0001!

BETTER PRODUCTS . . . With Hydro-Finish on your production line, surfaces hold electro-plating better, resist peeling and chipping. *Hydro-Finish* forms a "tooth" for better bonding of rubber, paint, plastics, etc. Makes threaded pieces turn easily . . . forms little oil pockets in lubricated pieces for longer wear. Eliminates burrs in machined parts and removes or blends grinding lines to reduce fatigue failure!

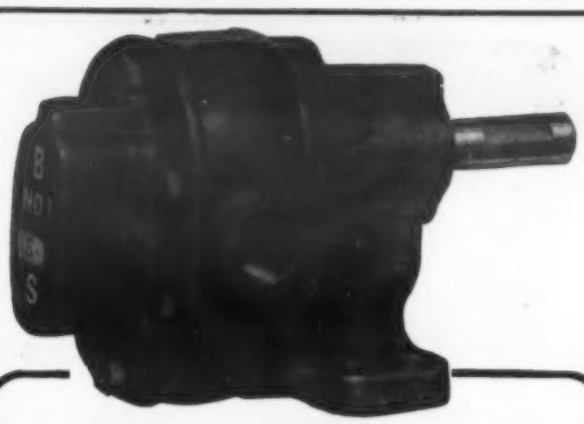
LONGER TOOL AND DIE LIFE . . . Jobs that formerly took hours are done *in minutes* with Hydro-Finish! You clean and improve surface of plastic and die casting dies, rubber and glass molds, forging dies, forming and deep drawing dies, without excessive metal removal. Dies are clean, produce maximum production . . . all without expensive hand maintenance!

GET THE FACTS: Write today for Bulletin 1400 and learn how Pangborn Hydro-Finish can help you! Address: PANGBORN CORPORATION, 1294 PANGBORN BLVD., HAGERSTOWN, MARYLAND.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control Equipment.

Pangborn
BLAST CLEANS CHEAPER
with the right equipment for every job

▲ Mention Item NED-3369 when writing ▲



Rotary Helical-Geared Pumps for General Use

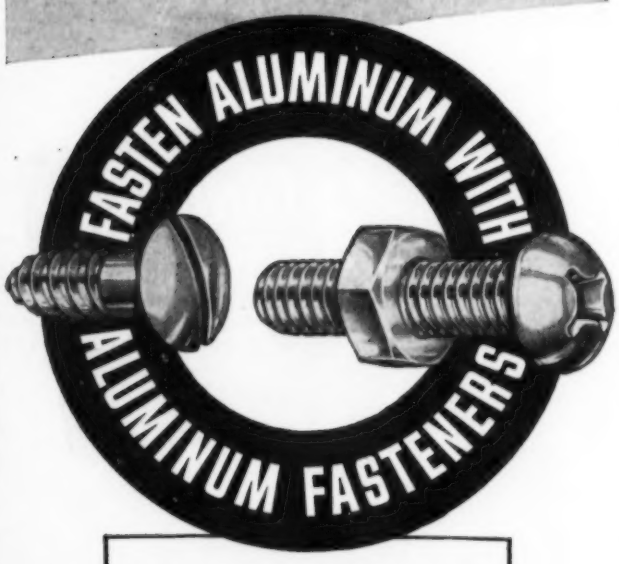
Brown & Sharpe 1S, 2S and 3S Rotary Geared Pumps with helical gears permit quiet operation at motor speeds. They are highly efficient for supplying coolant and lubricant, for circulating purposes and for low pressure hydraulic service. Pumps have renewable iron bearings—a mechanical seal to prevent leakage and eliminate gland adjustments—and come with or without integral relief valves. For complete information and installation dimensions, write Brown & Sharpe Mfg. Co., Providence 1, R. I.

We urge buying through the Distributor

BROWN & SHARPE PUMPS

▲ Mention Item NED-3372 when writing ▲

THIS PRACTICE MAKES PERFECT JOINTS



Write today for Free Samples of Alcoa Aluminum Fasteners

Strong, trouble-free joints in aluminum assemblies demand aluminum fasteners. They prevent galvanic corrosion that can result when dissimilar metals are used to fasten aluminum; never rust red, disassemble easily.

Alcoa Aluminum Fasteners are available in the following types: Sheet metal, wood and machine screws, Phillips or slotted heads, nuts, bolts, washers, lock washers, solid or tubular rivets, cotter pins and other standard fasteners; all popular sizes.

Write today on your letterhead for samples to ALUMINUM COMPANY OF AMERICA, 695 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA

ALCOA *Aluminum* FASTENERS

▲ Mention Item NED-3373 when writing ▲

PHOTOCOPY CAMERA

Constructed as self-contained unit which plugs into any standard 110-volt electrical outlet, Record Dexigraph high speed photocopy camera can be rolled on casters from one department to another, wherever records to be copied are located. Documents can be copied and released for active use or returned to files in few seconds with consequent protection of confidential information and minimum possibility of loss.

Developing of prints is separate procedure. Exposed prints are carried in light-tight transfer box to dark room where they can be developed whenever convenient. If desired, door in rear of camera can be removed and machine backed up against opening in darkroom wall for use in conjunction with darkroom.

Records up to 9¾ x 14 inches can be copied at same size or at reductions down to half original size. Records up to 14 x 17 inches can be copied at smaller sizes for easier handling and filing, or number of smaller documents can be copied simultaneously. Limited areas of document can be copied, or sections of several records can be combined on single photocopy. Made by **Remington Rand Inc.**, Photo Records Div., 315 Fourth Ave., New York 10, N. Y.

▲ Mention Item NED-3374 when writing ▲

STEAM TRAPS

Suitable for use with unit heaters; pipe coils; sterilizers; coffee urns; steam tables; kettles and laundry pressing machines, ironers and starchers, No. 118 steam trap has been added to Super-Silvertop line for small drainage light condensate load jobs. Unit can be installed either as elbow or straight-in-line without extra fittings as only one pipe nipple is required in installation. Blow-down plug and test plug permit easy cleaning and testing. Trap is satisfactory for pressures up to 150 pounds per square inch and has capacity rating of 700 pounds per hour continuous flow at 20-pound per square inch pressure.

Made in ½-inch pipe connection size, trap is of inverted bucket type with castings of nickel semisteel, bucket and guide tube of copper and bronze, and all working parts of heat-treated stainless steel. Trap can be inspected without removal from line, and all parts can be renewed quickly. Valve and seats are secured with clamp and two stainless steel screws and can be removed with screwdriver. Trap can be equipped with thermal air eliminators at extra cost. Made by **V. D. Anderson Co.**, 1932 W. 96th St., Cleveland 2, O.

▲ Mention Item NED-3375 when writing ▲

Introducing the New

"Luminum-Line" Plate and Pipe Marker

This new "Safety" steel stamp holder of cast aluminum is "easy on the operator" . . . gives long-life, rugged and dependable service . . . for all heavy-duty plate and pipe marking.

Write today for data and proposal!

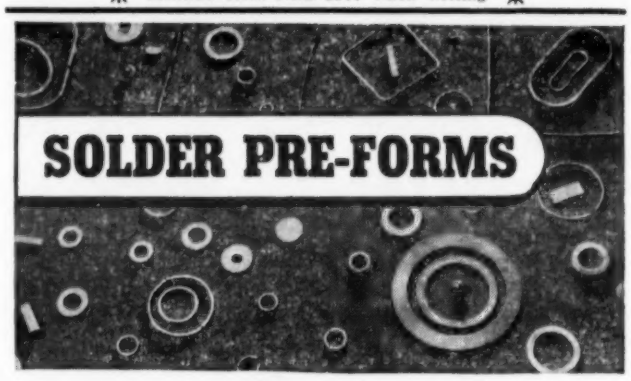
M. E. CUNNINGHAM CO.
SAFETY STEEL STAMPS

151 East Carson Street • Pittsburgh 19, Pa.

▲ Mention Item NED-3376 when writing ▲

GENERAL PLATE DIVISION
of Metals and Controls Corporation
805 Forest St., Attleboro, Mass. I1

▲ Mention Item NED-3377 when writing ▲



SOLDER PRE-FORMS

SPEED ASSEMBLY

STANDARDIZE

SAVE MONEY

Step up production — bring costs in your shop down—with solder pre-forms. Pre-formed rings, washers, pellets, discs, etc., made to your order, insure better bonds, lower costs, and faster assembly. We can supply you with custom-made pre-forms of any shape required, in a wide variety of solders, copper and brazing alloys.

Write for complete information.

Soldering Specialties
Dept. A, Summit, N. J.

▲ Mention Item NED-3378 when writing ▲

YOU CAN BE **SURE**.. IF IT'S Westinghouse

CIRCUIT WIRING ...SIMPLIFIED

...with the new Sectional Terminal Block

Here's something completely new in terminal block design. Each Sectional Terminal Block is a complete, insulated unit which can be attached to a steel mounting channel by simply sliding it into place and turning it into position. Apply them in any number from 1 to 75, wherever a variable number of terminals are to be assembled.

Sectional Terminal Block features include:

- Pressure-type, solderless connections.
- Adding or removing terminal sections without disconnecting others.
- Available in 25 and 50-ampere sizes, for any voltage to 600 volts maximum, a-c or d-c.

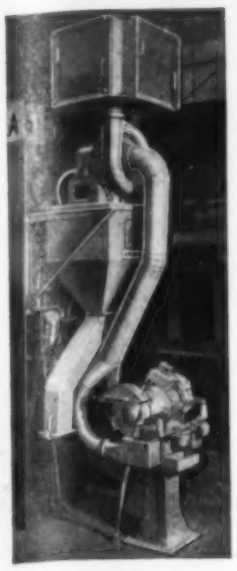
For complete details send for B-4203. Write: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa., or call your nearest Westinghouse Sales Office. J-60684

Westinghouse

▲ Mention Item NED-3379 when writing ▲

There's always room for a

ROTO-CLONE



Modern Dust Control Equipment Designed to Fit the Space and the Job

● This two wheel grinding stand, although placed in a crowded center-of-plant location, is serviced by a wall mounted Type D Roto-Clone. Dust-laden air is removed at the hoods, conveyed to the Roto-Clone where the dust is separated and delivered into the hopper and the air is passed through a final aftercleaner and recirculated to the workroom. A complete, compact operation utilizing unused wall space and designed for disposal of collected dust at floor level. Bulletin 270-A describes this as well as the complete line of Roto-Clone Dust Control Equipment. Write for it today.

AMERICAN AIR FILTER CO., INC.
391 Central Ave., Louisville 8, Ky.

In Canada:
Darling Bros., Ltd., Montreal, P. Q.

AAF

ROTO-CLONE DUST CONTROL

Mention Item NED-3380 when writing

STACKPOLE PERMANENT MAGNETS

. . . of Sintered Alnico II

REAL ECONOMY FOR SMALL SIZES AND ODD SHAPES

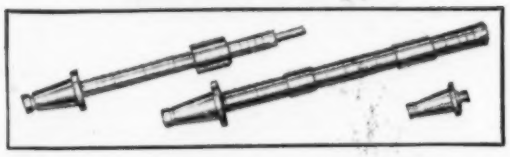
Stackpole sintered *Alnico II offers notable economy in the production of permanent magnets in weights up to two ounces. Odd shapes are a specialty. Engineering recommendations based on your requirements gladly submitted. *Licensed under G-E pat.

✔ **BETTER UNIFORMITY CHARACTERISTICS**
✔ **GREATER MECHANICAL STRENGTH**

STACKPOLE CARBON COMPANY
ST. MARYS, PA.

Mention Item NED-3381 when writing

STANDARD MILLING MACHINE ARBORS



- **COMPLETE RANGE OF SIZES**
- **STYLES A-B-C**
- **STANDARD NO. 40 & 50 TAPERS**

For complete information on arbors, cutters, vises, arbor bearings, collets, and other tools for milling and boring, write for new bulletin No. C-10D.

KEARNEY & TRECKER MILWAUKEE MACHINE TOOLS

KEARNEY & TRECKER CORPORATION
6748 West National Avenue
Milwaukee 14, Wisconsin

Mention Item NED-3382 when writing

INDUSTRIAL TRUCK

Featuring four-wheel drive and full hydraulic control and loader operation, Traveloader is combined loader, carrier and motor truck. It self-loads from side onto carrying deck and is capable of transporting its load through narrow aisles or over roads at speeds up to 30 miles per hour. Three models are available with 3000; 10,000 and 30,000-pound lifting capacity. Made by **Lull Mfg. Co.,** 3610 E. 44th St., Minneapolis 6, Minn.

Mention Item NED-3383 when writing

ROTARY FLOOR MACHINE

Available with or without cleaning solution storage tank mounted on handle, model V-A floor machine can be used for both floor maintenance work and shampooing rugs and carpets. With series of interchangeable attachments, machine will scrub, wax, polish, buff, sand, grind or steelwool floors of all types. It utilizes 1/3-horsepower vertical gear reduction motor and 14-inch brush, and for extra heavy duty it is available with ½-horsepower motor. Motors are of capacitor-start induction-run type and have no brushes to wear out. Made by **Hild Floor Machine Co.,** 1311 W. Randolph St., Chicago 7, Ill.

Mention Item NED-3384 when writing

ADJUSTABLE WRENCH

When used with numerous handles and parts which are available, adjustable crowfoot attachments offer many combinations to perform variety of nut turning operations. They afford flexibility of detachable socket system with advantages of open-end adjustable wrench. Made from alloy steel, attachments are available in ⅜ and ½-inch square drive sizes with capacities of ¾ and $\frac{13}{16}$-inch, respectively. Square shoulders on body portion of sliding jaw provide maximum and positive bearing against working stress. Made by **J. H. Williams & Co.,** Dept. NED-5, 400 Vulcan St., Buffalo 7, N. Y.

Mention Item NED-3385 when writing

KLIXON PROTECTORS

Assure Long Operating Life by Preventing Motor Burnouts in All Types of Equipment No matter what the product—machine tools, electric appliances, adding machines, oil burners—you can help build user acceptance by using and specifying motors with built-in Klixon Protectors.

These foolproof devices take into account the factors that cause motors to overheat and prevent them from burning out by cutting "off" the power when the temperature reaches the danger point. Then when the motor cools sufficiently, they snap "on" the power either automatically or by manual reset depending on the type of protector specified.

As a user of electrical motors, it will pay you to insist on and buy motors with Klixon Protectors.

KLIXON
SPENCER THERMOSTAT DIVISION
Metals & Controls Corporation
1905 Forest St., Attleboro, Mass.

Mention Item NED-3386 when writing

FOR GREATER CONVENIENCE
. . . *de luxe* EYE SWEEP*

Double purpose: magnet for removing iron or steel particles, loop for cinders, dirt, other foreign matter.

Self contained, all stainless steel. May be sterilized without affecting magnet. Clip provides for pocket use. Only $5.00 postpaid. Money-back guarantee.

ORDER TODAY DIRECT OR SEND FOR COMPLETE DATA

* Registered Trademark

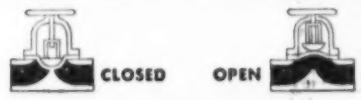
A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

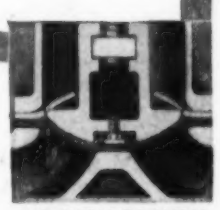
2701 W. Huntingdon St., Philadelphia 32, Pa.

RESPIRATORS • PUMPS • GOGGLES • SHIELDS • GLOVES • APRONS • HELMETS

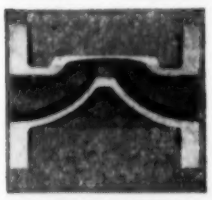
Mention Item NED-3387 when writing

Simple as pinching a rubber tube





NO METAL-TO-METAL SEAT . . . The large contact area on which this flexible diaphragm seats gives positive closure even when grit, scale or other solid matter is temporarily trapped.



MINIMUM RESISTANCE TO FLOW . . . Smooth streamlined fluid passage without pockets prevents accumulation of sludge and reduces friction resistance to a minimum.

A GRINNELL-SAUNDERS DIAPHRAGM VALVE works on a simple principle . . . it pinches tight for positive closure and opens wide for streamlined flow. The working parts of the valve are completely isolated from the fluid . . . no corrosion, no contamination and no leaks. Choice of diaphragm material. Body materials . . . cast iron, malleable iron, bronze, aluminum, stainless steel. Body linings . . . glass, lead, rubber or synthetics.

MAINTENANCE REDUCED . . . The diaphragm is the only part that normally wears out. Replaced in a few minutes without removing valve from line.

Available in various combinations of valve body and operating mechanisms.

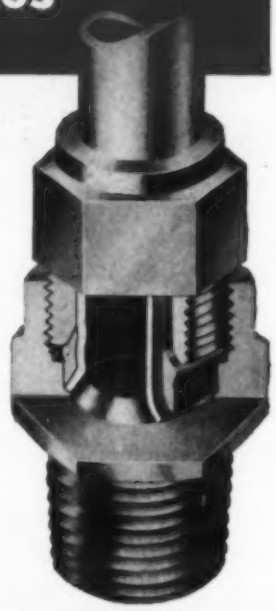
99 YEARS PIPING

GRINNELL

Grinnell Company, Inc., Providence 1, R. I. Branches: Atlanta • Buffalo • Charlotte • Chicago • Cleveland • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

Mention Item NED-3388 when writing

6 reasons why Uniflare TUBE FITTINGS are best



1. They're self-flaring—flare cannot be damaged by overtightening.
2. *Anybody* can make a good joint correctly the first time with Uniflare.
3. Uniflare makes the flare without *ever* cracking the tubing whether it's seamless or other type tubing.
4. Can be taken apart and reassembled *many* times—initial tight seal is retained.
5. Strength on pull test is 3 to 1 over compression fittings. Tighter fit and greater vibration resistance.
6. Special alloy brass in Uniflare fittings is 50% stronger in tensile and hardness than other brass fittings.

Uniflare TUBE FITTINGS
A Product of Scovill

Fully approved by Underwriters' Laboratories, Inc. Available from your distributor in all standard shapes in sizes from 1/8 in. through 1 in. Write for free folder to Dept. 20.

A. SCHRADER'S SON
Division of
SCOVILL MANUFACTURING CO.
Incorporated
BROOKLYN 17, NEW YORK

▲ Mention Item NED-3389 when writing ▲

Safety BELT HOOKS
REG. U.S. PAT. OFF.

Safest because:

Hooks are rigidly held in accurate alignment by patented steel binder bars before, during and *after* application, distributing tension uniformly across the belt, assuring maximum traction and minimum wear. Patented binder bars lap over belt end, prevent fraying. Sizes for all belts. Costs no more than ordinary belt hooks. Write for circular.

Safety Lacing Machines Apply All Makes

SAFETY BELT-LACER CO.
5378 N. MENARD AVENUE
CHICAGO 30, U. S. A.

▲ Mention Item NED-3390 when writing ▲

HUNTING *for a material to make your product better?*

THE NEW SYNTHANE CATALOG MAY PROVIDE THE ANSWER

Planning with plastics is easier when you have the Synthane technical plastics catalog. If you're interested in new ideas and suggestions that may improve your product or process you won't want to miss it.

Pertinent information on grades, sizes, properties applications and forms of Synthane is included. As a semi-permanent reference book you'll want it in your office library.

Mail the coupon today for your free copy.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED-LAMINATED
MOLDED MACERATED

SYNTHANE CORPORATION
Northeast River Road, Oaks, Penna.
Please send me a copy of the complete Synthane catalog.
Name_____
Firm_____
Address_____
City_____ State_____

▲ Mention Item NED-3391 when writing ▲

DISCHARGE CHECK VALVES

Usable in discharge lines carrying steam, sludge, waste water and similar waste liquids in gravity flow installations, these discharge check valves protect against contamination of liquids and fouling of pumps and other equipment. To minimize fouling of valve, units have swing check flap suspended from full-floating pin fulcrum to insure positive full-surface contact between ground face of flap and flap seat. Valves can be operated with manual control, extension shaft or flexible cable from access box. Flanges are rated 150 pounds with flat face blank or drilled, as specified. They are available with 180, 105 or 90-degree bodies of cast iron, cast bronze, semisteel, steel and corrosion-resistant alloys. Made by **J. A. Zurn Mfg. Co.,** Dept. Z-8, Erie, Pa.

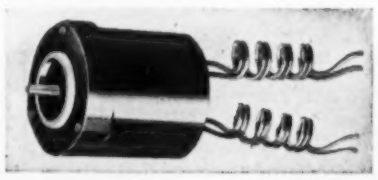
▲ Mention Item NED-3392 when writing ▲

ELECTRICAL CONNECTORS

Safety is assured through integrally molded neoprene rubber construction, unique pin and socket design and self-sealing watertight feature of electrical connectors for use with electrically powered portable equipment. After being subjected to mechanical and electrical tests, each connector is fluoroscoped to assure positive means of checking wire lay, insulation thickness and soldering perfection. Made by **Mines Equipment Co.,** Dept. 39, 4235 Clayton Ave., St. Louis 10, Mo.

▲ Mention Item NED-3393 when writing ▲

SERVO MOTOR



Adaptable to servo systems used in military and aircraft computers, radar equipment, automatic pilots, searchlight directors, fire control computors and various laboratory equipment, 400-cycle 115-volt two-phase four-pole induction servo motor has torque-to-inertia ratio of 26,300 radians per second per second. It delivers 2½ ounce-inches stall torque which varies directly with control winding voltage, and it is capable of reversing in 0.2-second from 11,200 revolutions per minute. Motor will stop rotating when excitation of control winding is reduced to zero. It is 1¾ inches in diameter, 1¾ inches long and weighs 6.1 ounces.

For applications where higher acceleration is more important than small size and light weight, larger servo motor of same design is available. It has torque-to-inertia ratio of 46,000 radians per second per second, stall torque of 3.8 ounce-inches, measures 2.3 inches in diameter by 2-3/16 inches long and weighs 15 ounces. Made by **Square D Co.,** Kollsman Instrument Div., 80-08 45th Ave., Elmhurst, N. Y.

▲ Mention Item NED-3394 when writing ▲

Guard Against Costly Power Failures with

ONAN STANDBY ELECTRIC PLANTS

When power fails, business comes to a standstill. Materials in process are wasted, men and machines stand idle, lives may be endangered. Prevent the disastrous effects of power failure with a low-cost, easy-to-install Onan Standby System. The generating plant starts automatically when commercial power fails, takes over the power load without interruption, stops automatically when power is restored. Many models: 350 to 35,000 watts, A.C.

Write for Catalog

Onan PRODUCTS

D. W. ONAN & SONS INC.
3690 Royalston Ave., Minneapolis 5, Minn.

ONAN STANDBY POWER

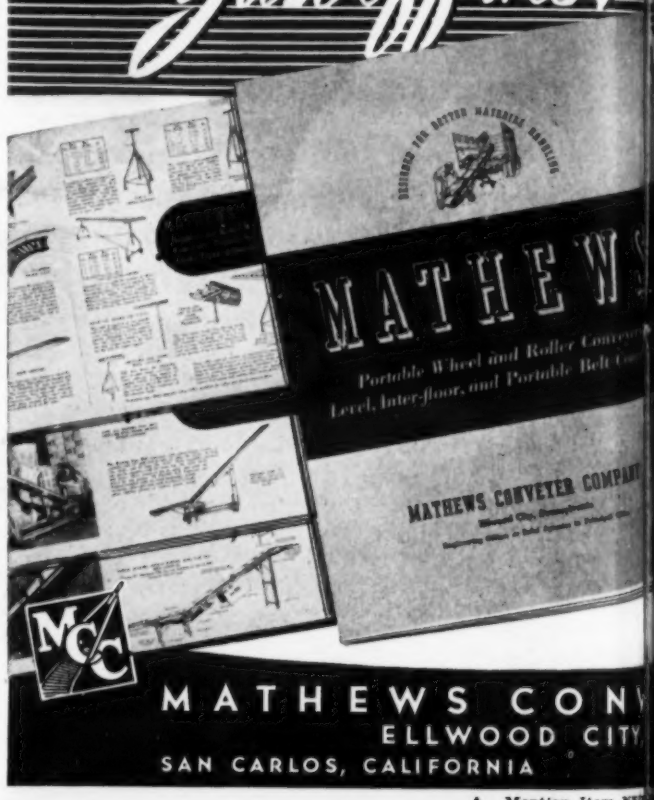
▲ Mention Item NED-3395 when writing ▲

● With individual pump and motor, Houdaille Sump Cleaner will lift any liquid from below floor level, can be used for either suction or discharge.

● One man can easily empty sump, salvage surface oil and dispose of waste with tilt-tank of Houdaille Sump Cleaner.

▲ Mention Item NED-3396 when writing ▲

Just off the Press



MATHEWS CONVEYOR
ELLWOOD CITY
SAN CARLOS, CALIFORNIA

▲ Mention Item NED-3397 when writing ▲

THEY HOLD UP WHEN THEY HOLD UP WHEN

UNION METAL
Materials Handling Equipment

▲ Mention Item NED-3398 when writing ▲

Houdaille-e* Sump Cleaner for ONE-MAN Oil, Coolant Handling

The Houdaille Sump Cleaner is designed for efficient handling of either coolants or oils, either clean or dirty.

The sump cleaner is wheeled to machine, nozzle inserted in sump below liquid level, and moved in rotary motion until all liquid has been pumped out. Unit is then ready to move to next machine, and operation is repeated until mercury switch automatically shuts off pump and motor when tank is full. By turning the three-way valve, unit will discharge.

Replace older, costly, time-consuming methods of hand sumping. Notable savings are possible, for usable oils and coolants formerly wasted can now be salvaged.

Write today for more information on modern oil and coolant handling equipment to 405 Wabash Avenue, Lebanon, Indiana, care of **Honan-Crane Corporation,** *a subsidiary of* **Houdaille-Hershey Corporation.**

* Pronounced Hoo-Dye

Mention Item NED-3398 when writing

Free 12 pages OF FACTUAL HELP FOR YOU ON PORTABLE CONVEYERS

• Twelve pages of ideas—moving ideas . . . showing many different styles of portable conveyers and illustrations of equipment in use in different situations. Includes portable wheel and roller conveyers, portable belt conveyers, and standardized level and inter-floor belt conveyers. If you have a conveying problem, whether it involves standard or engineered equipment, the Mathews organization can help you to solve it in the best way.

Your copy will be mailed promptly

MATHEWS CONVEYER COMPANY
PITTSBURGH, PENNSYLVANIA
PORT HOPE, ONTARIO, CANADA

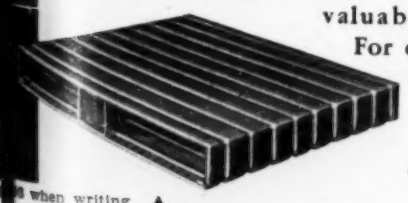
Mention Item NED-3399 when writing

THE PRESSURE IS ON

Strength is a keynote with UNION METAL *Materials Handling Equipment*

STORING unit loads of heavy copper ingots puts plenty of "pressure" on these Union Metal Double Deck Pallets. But you can see that despite the tremendous weight applied again and again, these pallets show no sign of distortion.

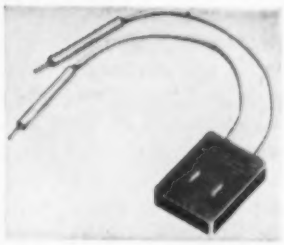
It's the same with Union Metal steel boxes and skids . . . a keynote of rugged strength, long life, for peak economy. There are many types and combinations for practically *any* materials handling problem. They're ready to help you speed up your handling and make full, *practical* use of valuable storage space.



For complete information, write The Union Metal Manufacturing Co., Canton 5, O.

Mention Item NED-3400 when writing

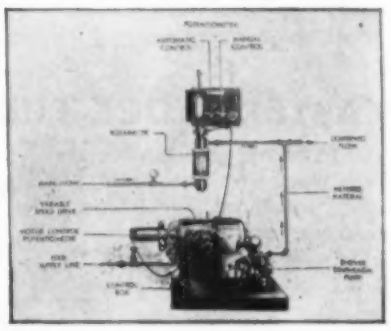
LINE VOLTAGE TESTER



Capable of identifying 110 and 220-volt alternating or direct current lines as well as polarity, Polyvoltester will also check fuses, shorts and grounds. Case is vest-pocket size, with all parts imbedded in molded case. Test leads are of wound nichrome wire protected by vinyl coverings. Any possibility of a short circuit occurring through tester is eliminated by the 11,000-ohm resistance in the leads. Made by **Fox Valley Instrument Co.,** Box 603, Ingleside, Ill.

Mention Item NED-3399 when writing

PROPORTIONING FEEDER

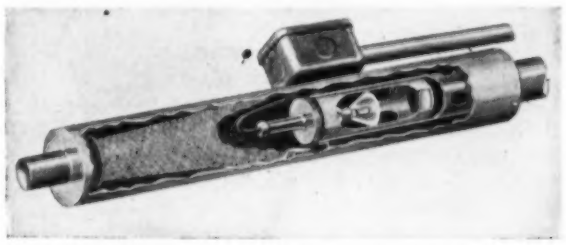


Corrosive, abrasive, viscous, thick or valuable materials can be fed at any desired rate into process lines in food, chemical, pharmaceutical and other industries. System consists of diaphragm pump of suitable capacity capable of handling pressures up to 100 pounds per square inch, variable speed drive activated by rotameter and potentiometer controller, and necessary piping. Amount of material fed increases or decreases in direct proportion to rate of main flow. Equipment can also be set to provide constant rate of flow if required. Made by **T. Shriver & Co.,** 815 Hamilton St., Harrison, N. J.

Mention Item NED-3400 when writing

SMOKE DETECTOR

Early detection of incipient fires in hazardous plant and warehouse areas is possible with this single-unit photoelectric smoke detector. Continuous sample of air



is drawn from protected space into analyzer tube where it passes through filter screen to remove dust and dirt and then into beam of light focused on photoelectric cell. Smoke in air sample reduces amount of light reaching cell and sets off alarm connected through electrical circuit to control panel. Panel also warns of mechanical and electrical disturbances within apparatus. Circuit of smoke detector can be tied in with controls to operate ventilating dampers, door-closing releases or electrical equipment power cutoff. Made by **Walter Kidde & Co.,** 675 Main St., Belleville 9, N. J.

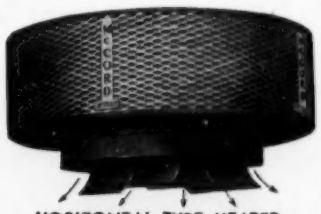
Mention Item NED-3401 when writing

Better Heat Distribution WITH McCORD Unit Heaters

VERTICAL TYPE HEATER

More Heat . . . Better Distribution

More heat, better distribution is the answer to any heating problem. McCord, because there is a model and type to meet each particular condition, will do a better heating job. Every improvement that engineers and the experience of many users could suggest is incorporated in the improved models of McCord Unit Heaters. Due to the design and careful attention to balance a new degree of quietness has been attained. The scientifically designed spiral fin tube heating surface provides maximum heat transfer capacity.



HORIZONTAL TYPE HEATER

McCORD CORPORATION
2580 E. Grand Blvd.
Detroit, Mich.

Specify McCORD ON YOUR NEXT JOB

Mention Item NED-3402 when writing

COMPLETE INSURANCE with the RELIANCE EXPLOSION-PROOF and CORROSION-RESISTING MOTOR

Selected Materials and Design Features
OFFER MAXIMUM PROTECTION!
FOR CORROSIVE ATMOSPHERES
The Totally-Enclosed Fan Cooled A-c. Motor for Applications where Chemical Atmospheres Prevail
and
FOR ATMOSPHERES CONTAINING HAZARDOUS GAS OR INFLAMMABLE LIQUIDS
Underwriters' Class I, Group D Explosion-Proof A-C. Motor

Here is the result of Reliance engineering applied to the problem of protecting motors that operate in either corrosive or explosive atmospheres. Frame and fan covers, fan, conduit box and end brackets are all made of selected corrosion-resisting materials. In addition, many extra steps are taken to achieve maximum protection, such as coating screws, counterboring screw holes and fitting-up with special compounds.

Reliance *Precision-Built* Motors offer you the *right* motor for any application. Detailed data on this Explosion-proof, Corrosion-resisting Motor, write for Bulletin C-130.

RELIANCE ELECTRIC & ENGINEERING CO.
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Representatives in Principal Cities

Mention Item NED-3403 when writing

***Pocket* THICKNESS MEASURES**

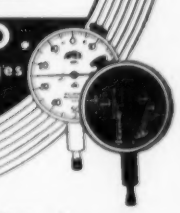
For measuring to .0005" and less, *at-a-glance, anything* —from hardest metal to softest rubber!

FOUR NEW MODELS of these popular precision dial micrometers are now available, in .0005", .001", and .01 mm. graduations. Range of all models is 5/16" (8 mm.). The .0005" models are especially suitable for measuring tissues, fibres, filaments, etc.

FEATURES: Automatic, uniform contact pressure—everyone gets the same speedy, accurate readings. Weight only 1½ ounces. Case thickness ¼". Dial 1⅝" dia. Fixed parallel contacts ¼ dia. Direct-reading count hand. Forged aluminum alloy case.

Price $15.00 at Waltham. Send inquiries to: 34 Ames Street, Waltham 54, Mass.

B. C. AMES CO.
Mfr. of Micrometer Dial Gauges
Micrometer Dial Indicators
Representatives in principal cities



Mention Item NED-3404 when writing

BIN-LEVEL CONTROLS

2 BIN-DICATORS Often Replace 1 Man

BIN-FLO Aerating Units Keep Things Moving

ECONOMICAL MATERIAL CONTROL

DEPENDABLE BIN-LEVEL INDICATION

Mail this Coupon

THE BIN-DICATOR CO., 14615 E. Jefferson, Detroit 15, Mich.

Please send new 20-page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units. D-5

Name_____
Address_____
City_____ Zone____ State____

Mention Item NED-3405 when writing

Fast, Safe, Adaptable

... the An-cor-lox lock nut

1. Spins on fast by hand. One piece. All metal. Available in high, standard, thin and acorn or cap designs.

2. Tightens just like an ordinary nut. Ideal for primary setup. Locking ring at base of nut; no extra stud length required.

3. Ring grips bolt with vibration and shock-proof grip. No axial play. Standard wrenches. Re-usable many times.

4. When backed off, locking ring *stays* locked! Prevents "walking off" even if other parts of assembly loosen.

Don't select your lock nut until you've tested An-cor-lox. Send today for descriptive literature and free standard samples.

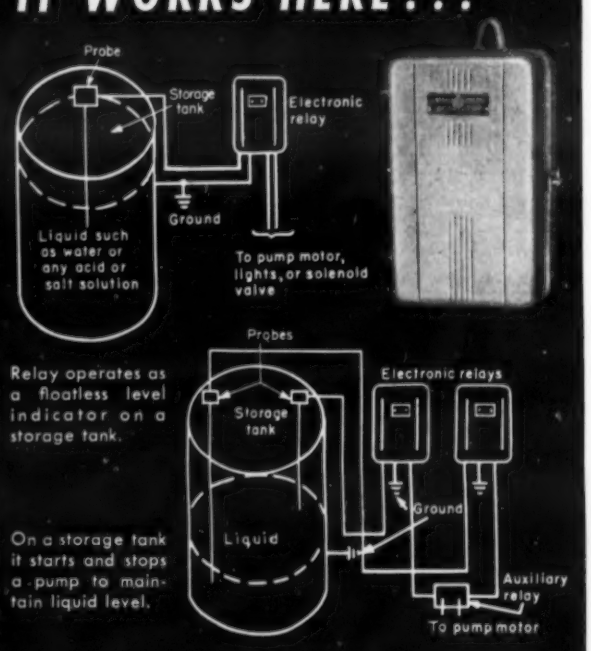
An-cor-lox TRADE MARK REGISTERED *Lock Nuts*

LAMINATED SHIM CO., Inc., *An-cor-lox Division*, 2305 Union St., Glenbrook, Conn.

AN-COR-LOX NUTS • SHIMS • SHIM STOCK • STAMPINGS

Mention Item **NED-3409** when writing

IT WORKS HERE...

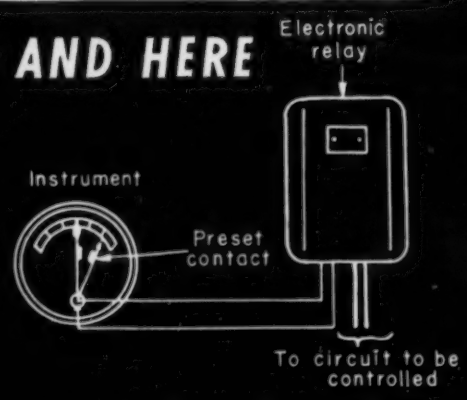


what's YOUR problem?

This G-E ELECTRONIC RELAY counts, gages, tests conductivity of solutions, controls liquid level, detects breaks in threads—used wherever a power circuit must be controlled from a low-current or high-resistance contact. It operates with as much as 5 megohms in the actuating circuit and as little as 0.004-second contact time. Easily installed and serviced. Suitable for indoor or outdoor applications.

Diagrams are of a few industrial applications where this relay is being used. Bulletin GEA-4214A gives more details. Write now or contact the nearest G-E office. *Section D730-4, Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

... AND HERE



Acts as a contact amplifier for delicate instruments. Because of the small amount of power required for operation, instrument contacts are not overloaded—do not weld or stick because of arcing.

G-E ELECTRONIC RELAYS

GENERAL ELECTRIC

Mention Item **NED-3410** when writing

AIR VELOCITY METERS

Suitable for permanent installation with jets installed in ducts for continuous indication of air velocities, flush-mounted Velometer has many ventilating and air conditioning applications in commercial and industrial fields. Because of practically zero pressure drop through instrument, it is extremely accurate throughout its range. Minimum range is from 0 to 1000 feet per minute, and special ranges can be furnished if desired. Made by **Illinois Testing Laboratories, Inc.**, 430 N. LaSalle St., Chicago 10, Ill.

Mention Item **NED-3411** when writing

MASTER STOCK PUSHER

Of improved type, master stock pusher for automatic screw machines employs one-piece insert which can be hardened steel, chrome plated steel, nodular cast iron, high physical bronze or nylon. Features include ease of assembly, bearing surface over almost entire length to afford secure grip and broad capacity because shoulders have been eliminated. Made by **Sheffer Collet Co.**, Traverse City, Mich.

Mention Item **NED-3412** when writing

INTERVAL TIMER

Capable of operating one or two single-pole, double-throw switches and returning to original position at end of predetermined time interval, type IG interval timers are designed for use when electrical equipment is to be manually turned on, run for pre-set time and stopped automatically. Timers without external housings are made for built-in applications in microfilming equipment, hair waving machines, laundry dryers, therapeutic machines, ovens and extractors.

Self-starting syncronous motor operates enclosed dust-tight snap switch through cam and actuating arm when manual setting of pointer closes motor circuit and starts timing. Friction clutch in motor gear train permits shutting off timer or extending timing cycle manually during operation. Hold position, optional on two-pole model IG2, permits turning on load circuit without starting timing cycle. Wide range of control is provided by 11 different time ranges from 15 seconds to 24 hours. Unit is available for operation on 6, 12, 24, 115 or 230-volt alternating current, with special voltages on request. Made by **R. W. Cramer Co.**, Middlesex Ave., Centerbrook, Conn.

Mention Item **NED-3413** when writing

EX-CELL-O

PRECISION BORING MACHINES

Ex-Cell-O makes machines for precision boring, facing, turning, chamfering, and grooving. Style 1212-A is shown above. Set-ups for various kinds of work are possible—all *with standard equipment*. For information, write for Bulletin No. 31101, Ex-Cell-O Corporation, Detroit 32.

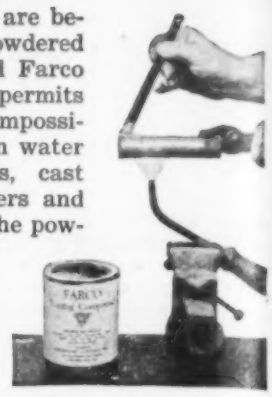
XLO EX-CELL-O for PRECISION

EX-CELL-O CORPORATION

49-21 **DETROIT 32, MICHIGAN**

Mention Item **NED-3414** when writing

TINS ALL METALS



Difficult tinning problems are being solved with a new powdered solder containing flux, called Farco Tinning Compound which permits jobs, heretofore considered impossible, such as tinning cast iron water jackets and cylinder heads, cast steel bearings, pipes, cylinders and stainless steel equipment. The powerful chemical formula will lift the oxides from aluminum, and on other metals is more drastic than ordinary acids. Makes it possible to lift the scale and tin black iron in one operation. Stability of the new powder makes it possible to judge heat on large bearings by its action in turning liquid when proper temperature for tinning is reached. Although strong enough to remove scale, dirt, and tin rusty surfaces thoroughly, it does not produce harmful fumes nor will it burn the skin. When used on gasoline motors, Diesel and marine engine bearings it is reported to increase performance life 100%. The compound may be applied with either torch or soldering iron depending on thickness of metal, and any good grade of solder may be used. Packaged in 1½ lb. cans, price $3.00 f.o.b.

FARRELLOY CO.,

1246 North 26th St. Phila. 21, Pa.

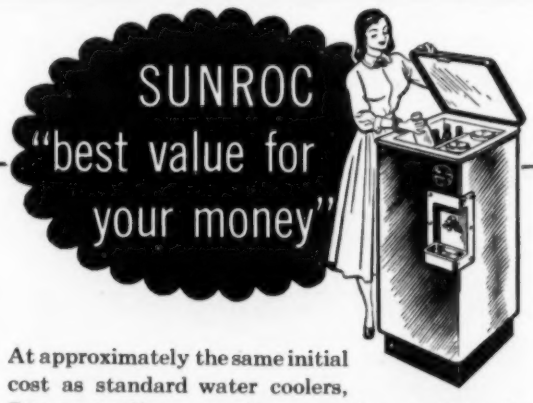
Mention Item **NED-3415** when writing

- High Torque Assures Better Driving of wood and sheet metal screws—will drive ¼" screws and bolts at higher speeds, or 5/16" bolt at 450 R.P.M.—especially good for driving wood screws.
- Slow Speed Saves Bits—bit finds screw slot easier and does not "chew" head of screw.
- Clutch Jaws Last Longer—due to slower ratcheting.
- Ideal for Self-Tapping and Recessed Head Screws. 12 models . . . friction or positive clutches . . . pistol or lever type. See your Aro Jobber or write . . . The Aro Equipment Corp., Bryan, O.

ARO AIR TOOLS

Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS

Mention Item **NED-3416** when writing



At approximately the same initial cost as standard water coolers, SUNROC offers vastly superior models for every purpose.

77 percent of the big buyers listed on the national stock exchanges enjoy the numerous advantages that only SUNROC can offer. For full information and a survey of your water cooler needs, annual service contract (all makes), or rental plan, write Dept. ND-5, Sunroc Refrigeration Company, Glen Riddle, Pa.

UL — ADVERTISED IN AMERICAN MEDICAL ASSOCIATION PUBLICATIONS

Sunroc WATER COOLERS GLEN RIDDLE, U.S.A. OFFICES IN PRINCIPAL CITIES

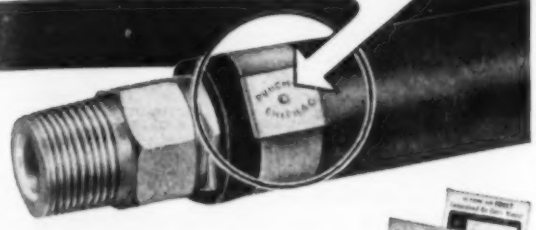
"SUNROC SERVES THE WORLD . . . a cool drink of water"

Mention Item **NED-3417** when writing

For Production and Maintenance

PUNCH-LOK
HOSE CLAMPS and FITTINGS

LOOK—it's locked for Safety



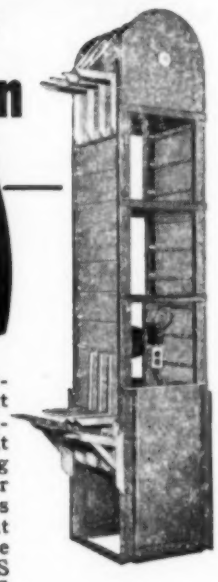
Today's Best Bet—For Leakproof Hose Connections
Write for Catalog and Air Leak Cost Chart

PUNCH-LOK COMPANY
Dept. S, 321 North Justine Street, Chicago 7, Illinois

Mention Item NED-3418 when writing

A NEW WAY TO Raise Production

with STEEL-PARTS STEEL BELT Elevating CONVEYOR



Now . . . a NEW way to raise production and employee efficiency . . . to cut unit cost and operating space! STEEL-PARTS new ELEVATING steel belt conveyor is unbeatable for sending parts or packages from floor to floor in a continuous flow . . . lifts packages up or down . . . loads or unloads at desired height. Incorporates all of the famous features of STEEL-PARTS standard models. Let STEEL-PARTS engineers make specific recommendations concerning your materials handling problems.

WRITE TODAY
STEEL-PARTS MANUFACTURING CO.
4624 W. Harrison St., Chicago, Ill.
DIVISION OF BLACKSTONE MANUFACTURING COMPANY

ENGINEERING DATA
BELT—heavy 18 gauge steel.
WIDTH—12 inches to 30 inches.
LENGTH—5 feet to 30 feet.
SPEED—Up to 50 feet a minute.
H.P. REQUIRED—1/2 to 2 horsepower.
LOAD LIMIT—(recommended) 50 lbs. per arm. This can be exceeded 50%.
PULLING LOAD LIMIT—1000 lbs.
ARMS—18 inch maximum length. Can carry a load up or down.

Mention Item NED-3419 when writing

ONE OR A THOUSAND . . .

LET US CUT THEM FOR YOU
As specialists in Gear, Sprocket and Rack cutting to customer's specifications, we offer you the finest in engineering skill and production accuracy. Send blue prints for estimates.

Make it a Habit to Send us your Gear Orders.

"Industrial"
Cut Gears • Sprockets • Racks

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS

Mention Item NED-3420 when writing

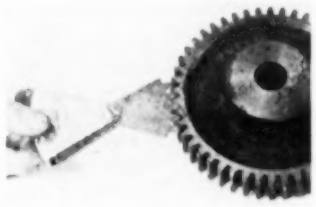
SMALL ELECTRIC MOTORS

Added to line of electric motor products, six different small electric Micromotors are available for wide range of applications. Features of these motors include humidity and oil-resistant coils, die-cast rotors, resilient rubber mounted bases, large oil reservoirs and finned die-cast or open ventilated drawn steel cases.

Illustrated is type BT 1/30-horsepower two-pole shaded alternating current motor of totally enclosed construction with die-cast case and enclosed fan cooling system. Other motors among additions to line range from 1/10 to 1/40-horsepower with speeds varying from 1000 to 3000 revolutions per minute, with one model designed for use on direct current. Made by **Redmond Co.**, Redmond Sq., Owosso, Mich.

Mention Item NED-3421 when writing

GEAR GAGE



Designed for carrying in toolbox or pocket, this shop model gear gage is practical for visualizing size and strength of teeth or checking finished gear for diametrical pitch. Gage has 16 blades with diametral pitches ranging from 4 to 64 in 14½-degree pressure angles. Teeth are of correct involute shape and are protected by case. Made by **George Scherr Co.**, Dept. NED, 200 Lafayette St., New York 12, N. Y.

Mention Item NED-3422 when writing

ELECTRIC FIXTURE HANGER

Modified and improved by incorporation of heat-treated aluminum casting for positioning stem and redesigned slotted guide tube for greater strength, disconnecting and lowering hangers offer higher resistance to corrosive atmospheres and extreme weathering than was formerly possible with malleable iron castings. Redesigned guide tube assures safe support of heavy lighting fixtures in all types of installations, both indoor and outdoor. Hangers continue to provide safe maintenance by disconnecting and lowering overhead lights to floor level for cleaning, lamp replacement or repair. Made by **Thompson Electric Co.**, 1101-38 Power Ave., Cleveland 14, O.

Mention Item NED-3423 when writing

FLEXCO HD BELT FASTENERS AND RIP PLATES

FOR HEAVY CONVEYOR AND ELEVATOR BELTS OF ANY WIDTH

Flexco HD Fasteners make a tight, butt joint of great strength and durability . . . distribute the strain uniformly. Operate smoothly over flat, crowned or take-up pulleys. Made of steel, Monel, Everdur and Promal.

Flexco Rip Plates are for repairing and patching damaged belts.

Ask for Bulletin F-100

FLEXIBLE STEEL LACING COMPANY
4664 Lexington St., Chicago 44, Illinois

Strong, Smooth and Readily Troughing.
Order From Your Supply House

Mention Item NED-3424 when writing

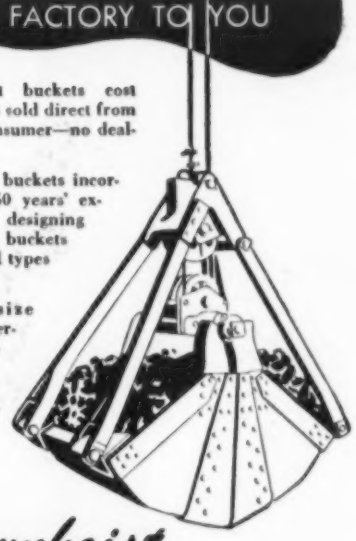
Buy a Better Bucket FOR LESS MONEY Buy Brownhoist

DIRECT FROM FACTORY TO YOU

• Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.

• Brownhoist buckets incorporate over 50 years' experience in designing and building buckets for handling all types of materials.

• Standard size rope-reeve, power-wheel and link-type Brownhoist buckets are available for immediate shipment.



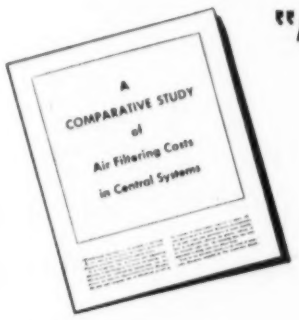
Brownhoist

Write for illustrated catalog of Brownhoist Buckets
INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan

Mention Item NED-3425 when writing

Despite today's high cost of labor
AIR FILTERING COSTS HAVE COME DOWN!

Write for your FREE copy of



"A COMPARATIVE STUDY OF AIR FILTERING COSTS"

This study gives you the facts, provides a work sheet in which you insert your own figures. In a few minutes, you can prove for yourself which type of air filter is most economical for any central system. Write Owens-Corning Fiberglas Corporation, Dept. 921, Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Toronto, Ontario.

DUST-STOP*
*T.M. REG. U.S. PAT. OFF.

AIR FILTERS
—a FIBERGLAS* product

*DUST-STOP is the trade-mark of Owens-Corning Fiberglas Corporation for impingement-type air filters made of glass fibers. FIBERGLAS is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

Mention Item NED-3426 when writing

Looking for Lower Cost Cylindrical Grinding?

Then Put These NORTON ABRASIVES to Work on All Your Cylindrical Jobs

57 ALUNDUM
abrasive with its combination of sharpness and toughness is first choice for a great majority of the cylindrical jobs on steel.

32 ALUNDUM
abrasive with its extra sharpness and coolness of cut is especially effective on many parts made of hardened steel.

ALUNDUM
abrasive (regular) has a toughness that makes it especially suitable for heavy stock removal and severe sharp corner work.

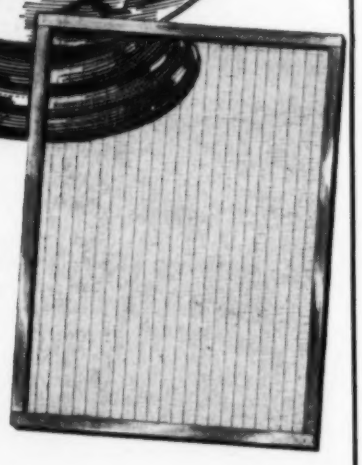
CRYSTOLON
abrasive has the combination of hardness and sharpness necessary for cast iron and the nonferrous metals.

NORTON ABRASIVES

NORTON COMPANY, WORCESTER 6, MASS.

▲ Mention Item NED-3427 when writing ▲

IT'S PRACTICALLY ON ICE!



Rooms will be up to 15° COOLER with KOOLSHADE Sun Screen

KoolShade on 100 square feet of sun-exposed window has the cooling effect of a ton of ice each day.

Folks work better when they are comfortably cool. Production goes up—costs go down. KoolShade is like a miniature venetian blind blocking the hot rays of the sun *outside* the windows. It does this without blocking air, light or vision.

And there is a definite reduction of heat load which materially reduces the cost of operating air-conditioning equipment. Hundreds of the largest organizations in the country have approved KoolShade for use on all sun-exposed windows. Mail the coupon today for free sample and literature.

KOOLSHADE BENEFITS YOU IN THESE WAYS

Low maintenance cost—no painting . . . no fire or wind hazard . . . long-lasting . . . prevents sun-fading of furnishings . . . excellent insect protection . . . easy and inexpensive to install.

KOOLSHADE* SUN SCREEN
INGERSOLL STEEL DIVISION
*Trade Mark Property of Borg-Warner Corporation

— Mail this coupon today for this free demonstration sample

Ingersoll Steel Division
Borg-Warner Corp., Dept. TK-5
321 Plymouth Court, Chicago, Ill.
Please send KoolShade sample and literature.
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Company.....
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City.....

PRODUCT OF BORG-WARNER

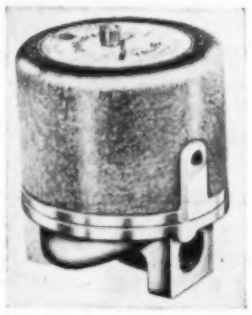
▲ Mention Item NED-3428 when writing ▲

CERAMIC SURFACE PLATE

Intended for use in toolrooms and inspection departments where precision setups and checking measurements require high degree of accuracy, ceramic surface plate affords high wear resistance, surface flat within 0.0001-inch and continuously smooth surface finish. Plate will not warp or deform, is not subject to expansion and will not deflect under load. It is nonmagnetic and will not sweat or corrode under atmospheric conditions. Cleaning is accomplished with soap powder and water. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

▲ Mention Item **NED-3429** when writing ▲

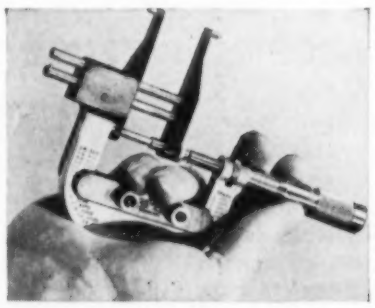
GAS CONTROL VALVE



Quiet operation and relatively high capacity of this compact diaphragm actuated gas valve adapt it for use on unit heaters, gas-fired circulators and new compact type boilers and furnaces. Easily dismantled for servicing in field, valve also features provision for manual operation in event of power failure. It can be used to control flow of natural, manufactured or mixed gas in ½ and ¾-inch pipe sizes. Units can be supplied for liquefied petroleum service on special order. Operating on 24 volts as standard, valves are A.G.A. listed. **Made by White-Rodgers Electric Co.**, 1298 Cass Ave., St. Louis 6, Mo.

▲ Mention Item **NED-3430** when writing ▲

MICROMETER ATTACHMENT



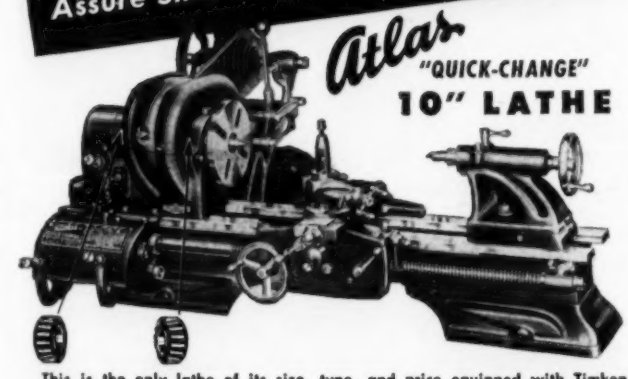
Several improvements have been incorporated in Rimat Microdapter (*See NED Sept. '48*) which is designed for attachment to outside micrometers to make possible accurate measurement of internal dimensions. Clamping bars have been added to simplify attachment and add to rigidity. New mounting method is faster, maintains positive alignment with anvils, insures accurate readings and permits easy application to any style frame.

Since measuring points of attachment are cone shaped and project beyond each leg, they can reach readily into internal grooves, recesses, behind shoulders and in deep bores. Measurements are read directly on regular thimble with original micrometer accuracy. Attachments are available in stock sizes for 1-inch micrometers covering range of ½ to 1 inch, 2-inch micrometers covering 1 to 2 inches, and 3-inch instruments with range of 2 to 3 inches. Made by **Rimat Machine Tool Co.**, 1117 Air Way, Glendale 1, Calif.

▲ Mention Item **NED-3431** when writing ▲

TIMKEN Bearings

Assure Smooth Running — Long Wear



Atlas "QUICK-CHANGE" 10" LATHE

This is the only lathe of its size, type, and price equipped with Timken Tapered Roller Bearings.

These Timken bearings enable the Atlas to handle high speed jobs such as metal spinning, wood turning, and plastics machining as well as all metal turning work at normal speeds. They maintain spindle alignment—carry radial and thrust loads with low friction—assure enduring accuracy and lower maintenance.

In addition, there's the Atlas "Quick-Change" feature that slashes costly set-up time with instant selection of 54 threads and feeds. 16 spindle speeds from 28 to 2072 RPM provide a wide working range for handling jobs quickly, accurately, and economically.

The new "Quick-Change" lathe catalog gives the facts and specifications. Send for it. See how the "built-for-wear" Atlas can save you money and speed production.

ATLAS PRESS CO.
523 N. Pitcher St., Kalamazoo, Mich.

MATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

▲ Mention Item NED-3432 when writing ▲

Pyrometer selection made easy in this new FREE book!

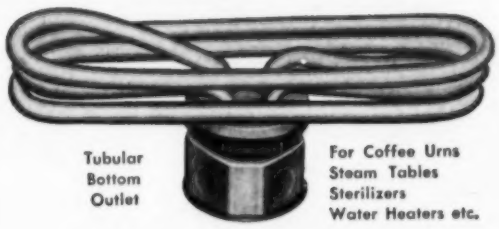
Ideal for direct mounting on engines, the FAX is dust-proof, splash-proof, sealed behind shatter-proof glass.

Are sustained, accurate and rapid temperature readings important in your business? If they are, this new book—showing the many types of Alnor precision-built Pyrometers—will be of invaluable assistance. In manufacturing or using machines where correct temperature readings are vital—diesel engines, heat-treating furnaces, ovens, pre-heaters, condensers, die casting machines and oil quenching tanks—Alnor has the *right* Pyrometer! Send for free copy of Bulletin 4361. Illinois Testing Laboratories, Inc., Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ Mention Item NED-3433 when writing ▲

VULCAN



Tubular Bottom Outlet

For Coffee Urns
Steam Tables
Sterilizers
Water Heaters etc.

ELECTRIC HEATING UNITS

For any application where electric heat is indicated.

IN ALL TYPES—Cartridge—Immersion—Flat Tubular—Bent Tubular—Flat.

BOTH Standard Numbers and Units made to your specifications.

IF YOU ARE CONSIDERING a problem involving electric heat why not consult our engineers? Their experience will prove useful.

VULCAN ELECTRIC COMPANY
DANVERS 8, MASS.

Makers of VULCAN Electric Soldering Tools, Electric Solder Pots, Electric Glue Pots, Electric Branding Irons, and other specialties that use electricity.

▲ Mention Item NED-3434 when writing ▲

PACIFIC

HYDRAULIC PRESS BRAKES

ACCURATE FORMING WITH MICROMETER CONTROL

Rapid set-up on all PACIFIC Hydraulic Press Brakes is assured by the micrometer vernier adjustments on the stroke limit switch. The exact stroke length is quickly and accurately set to repeat automatically with zero tolerance.

Write for catalog today.

PACIFIC INDUSTRIAL MANUFACTURING CO.
848 FORTY-NINTH AVE., OAKLAND 1, CALIF.

▲ Mention Item NED-3435 when writing ▲

It says "STOP" to Solids— "GO" to Fluids

Here is a BETTER Strainer to "police your pipelines"

• FIRST—*The Screen*, a high-grade, woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.

• SECOND—*Finish*. Cadmium plated for protection against corrosion and for better appearance.

• THIRD—*Easily Cleaned*. Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.

• THOUSANDS IN SERVICE—Sold by over 150 Mill Supply Houses. 6 sizes from ½" to 2" for pressures up to 600 lb. Reasonably priced.

See your supply house or write for Bulletin S-201.

YARNALL-WARING COMPANY
131 Mermaid Ave., PHILADELPHIA 18, PA.

YARWAY STRAINERS

▲ Mention Item NED-3436 when writing ▲

OIL DRIER THAN "BONE DRY"

With BOWSER (ESTABLISHED 1885) • DEGASIFIERS • DEHYDRATORS

If you need *extra dry oil* for production equipment, processing operations or finished products . . . this exclusive Bowser process may be the answer to some of your problems.

Bowser degasifiers and dehydrators have lowered costs in many plants by providing new highs in oil dryness and service life.

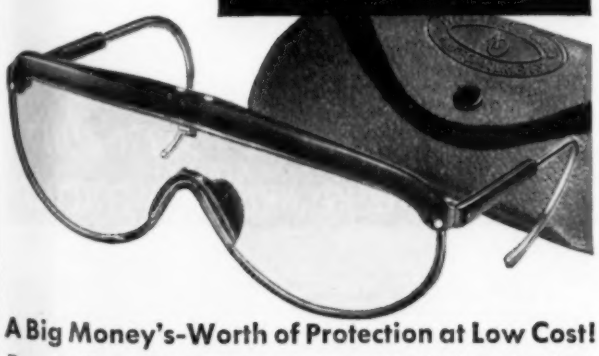
For complete data, write today to Bowser, Inc., 1361 Creighton Ave., Fort Wayne 2, Ind.

For.....
Refrigerator Oil
Vacuum Pump Oil
Heavy Duty Bearing Oil
Cable Oil
. . and many others

LIQUID CONTROL SPECIALISTS SINCE 1885

▲ Mention Item NED-3437 when writing ▲

AO 607 Safety Goggle



A Big Money's-Worth of Protection at Low Cost!

From its Shatter-Resistant Acetate Lens to its Lightweight Plastic Frame, the AO 607 offers assured protection, comfort, light weight and smart appearance. Single lens provides exceptional wide-angle vision—and is quickly replaceable. Broad nose pads distribute goggle weight evenly for extra comfort.

Frame is 100% durable plastic with high set end pieces for clear vision laterally as well as forward. No metal touches wearer. Cable temples are comfort type with metal core for quick adjusting—acetate enclosed for anti-corrosion.

The AO 607 MAY BE WORN DIRECTLY OVER EYES OR PERSONAL SPECTACLES. If protection against bright light and glare is needed as well as protection against flying particles, the goggle is available with green acetate lenses. Your nearest AO Safety Products Representative can supply you with this low cost goggle.

American Optical Company
Safety Products Division

Southbridge, Massachusetts • Branches in Principal Cities

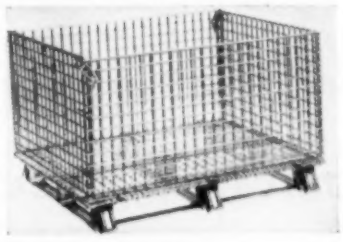
▲ Mention Item NED-3438 when writing ▲

DRINKING WATER COOLERS

Suitable for installation in offices, factories and institutions, restyled line of electric drinking water coolers includes pressure, bottle water and pressure bubbler types in capacities from 5 to 20 gallons. Three models in line are powered by hermetically sealed static condensing units which require no fan, fan motor or related parts. Pressure bubbler cooler models are equipped with precooler unit that meets plumbing and safety codes in all cities. All models have been approved by Underwriters' Laboratories. Made by **Kelvinator Water Coolers,** Dept. PR., Town and Lucas Sts., Columbus 8, O.

▲ Mention Item NED-3439 when writing ▲

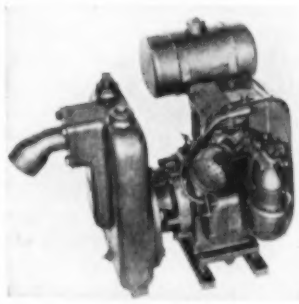
PALLET-CONTAINERS



Fireproof, rust resistant and easy to clean, Palletainers simplify materials handling operations. Built of steel to serve as storage or handling containers for production materials or as supply bins for working materials, they are constructed to support weight of castings, forgings and other heavy parts. Because they interlock, they can be stacked high safely. Units can be moved easily with hand or power fork or lift trucks. Sides fold down when required to reduce needed storage space by 75 per cent. Measuring 40 x 48 x 4⅞ inches with 24-inch high siding, Palletainers are available in standard capacity of 2000 pounds and heavy-duty capacity of 4000 pounds. Standard finish is hot galvanizing or aluminum paint. Made by **Union Steel Products Co.,** Albion, Mich.

▲ Mention Item NED-3440 when writing ▲

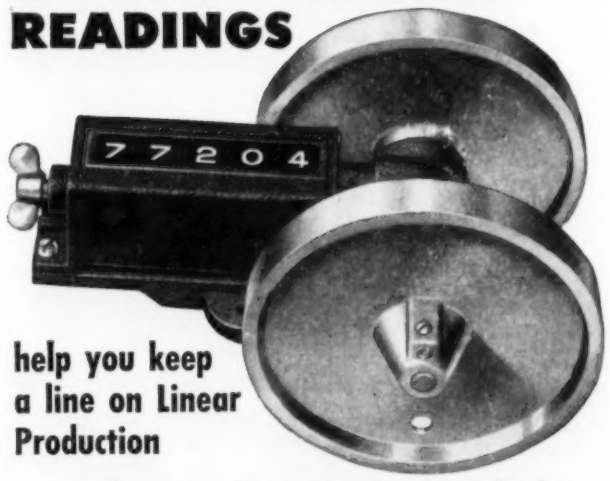
SELF-PRIMING PUMP



Consisting of self-priming centrifugal pump close-coupled to air-cooled gasoline engine, type LDA pump is intended for use where electric power or belting facilities are not available. It is especially useful for flood protection during power failures. Double discharge volute assures efficient priming, and mechanical seal eliminates need for stuffing box and packing gland. Pump is equipped with open type impeller for dewatering service where some small solids may be encountered and is recommended for any water application requiring capacities from 75 to 250 gallons per minute at 110-foot head. Made by **Gardner-Denver Co.,** Quincy, Ill.

▲ Mention Item NED-3441 when writing ▲

DIRECT VEEDER-READINGS

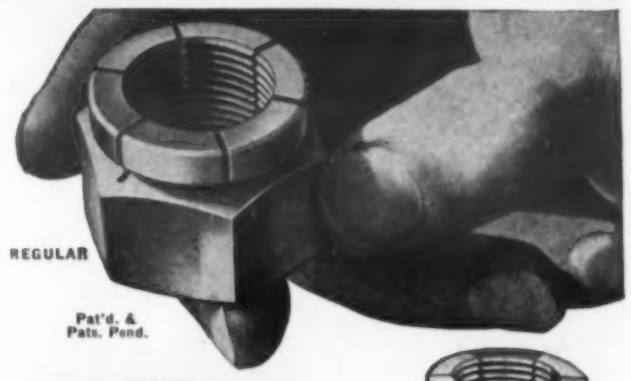


help you keep a line on Linear Production

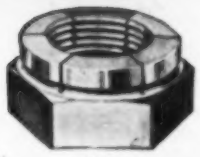
It's as simple as this: Textiles and other materials pass under the smooth-surfaced twin wheels. And the worm-drive gears inside the counter cause the 5 figures to indicate directly in yards, feet, meters, or other units. The wheels are one foot in circumference . . . and other types of wheels, even grooved ones, can be had, for other purposes and materials. This Reset Worm-Driven Counter is one of scores of Standard Veeder-Root Counters. Write for Condensed Catalog to

VEEDER-ROOT INC., HARTFORD 2, CONN.

▲ Mention Item NED-3442 when writing ▲



FLEXLOC



ONE-PIECE SELF-LOCKING NUTS

WON'T SHAKE LOOSE . . REDUCE MAINTENANCE

Invariably, when nuts loosen, they cause shutdowns, loss of production, and bad tempers all around. All this can readily be eliminated by installing the one-piece, self-locking "FLEXLOC," because *it positively will not shake loose* and positively cuts cost of maintenance.

The all-metal, one-piece resilient "FLEXLOC" is becoming increasingly popular, because it is processed to have an exceptionally uniform torque and, because it packs a stop, lock and plain nut all in one. "FLEXLOC" accommodates itself to a wide range of thread tolerances and can be used over and over again without losing much of its torque. And, being a stop nut, it stays locked in any position on a threaded member. It is not affected by temperatures commonly met.

Available in "thin" and "regular" types—in sizes from No. 6 to 2 in. in diameter—in NC and NF thread series. Write for your copy of the "FLEXLOC" Catalog.

OVER 46 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNSYLVANIA, BOX 581

CHICAGO • DETROIT • ST. LOUIS • SAN FRANCISCO

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BLOWERS and EXHAUSTERS for air or gas...

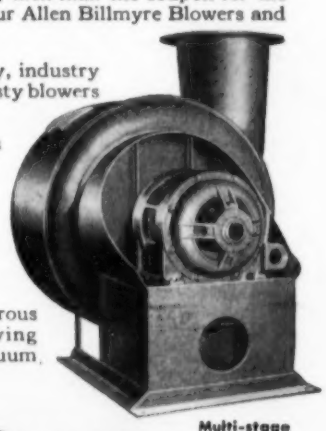
Centrifugal Type
Single and Multi-stage
½ lb. to 7 lbs. pressure
½ h.p. to 250 h.p.

If you have a problem in handling air or gases of various densities, temperatures or chemical compositions, then mail the coupon for the new bulletin describing our Allen Billmyre Blowers and Exhausters.

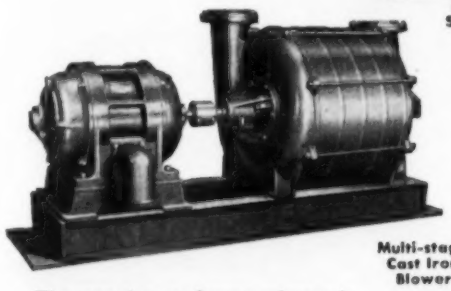
For over a half century, industry has depended on these trusty blowers and exhausters for:

Agitation and Aeration
Combustion
Cooling and Ventilating
Gas and Acid manufacturing

Conveying and numerous other applications having various pressure and vacuum requirements.



Multi-stage Steel blower



Multi-stage Cast Iron Blower

The experience of our engineers is at your disposal. We urge you to call upon us whenever you have an air handling problem.

SEND COUPON for this folder TODAY

Allen Billmyre Division
Lamson Corporation
503 Lamson Street, Syracuse 1, N. Y.

Send me, without obligation, your Blower and Exhauster bulletin B-5

Name.....

Company.....

Address.....

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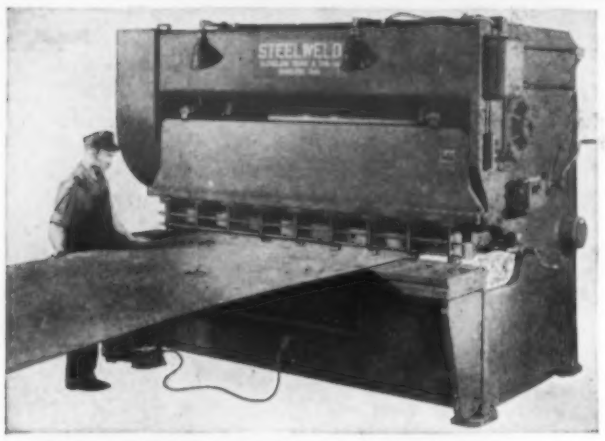

ALL STEELWELD SHEARS
Controlled Electrically!

Convenient electric foot-switch operation is standard for all SteelwELD *Pivoted-Blade* Shears. The switch can be slid around floor to wherever handiest It eliminates tiresome leg lifting required for usual mechanical foot treadle.

Steelweld Shears are built in all sizes for plate to 1-1/4" thick. Get the facts on these truly modern machines.

STEELWELD Pivoted-Blade SHEARS CATALOG No 2011

Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6609 East 282nd St., Wickliffe, O

STEELWELD SHEARS

▲ Mention Item NED-3447 when writing ▲

NEO-CORD COUNTER-TRED
SAFETY MATTING

Long wearing under heaviest traffic, the slip-resistant qualities actually improve with use.
Resists animal fats, vegetable and fish oils, chemicals, hot soapy water, polishes, lactic acids, gasoline, kerosene, heat and sunlight—all enemies of rubber.
Reduces fatigue, speeds up production.
Reduces breakage.
Combines Gro-Cord, exclusive cord-on-end construction with Dupont Neoprene to provide the world's greatest non-slip material. The cords are the identical high grade native long staple sea island cotton such as employed in the manufacture of finest tires. Ridges on the top and bottom faces afford a safe walking area, drainage and aeration.
Made in sections which are heat vulcanized together to form strips 23¾" wide and of any length in 12½" multiples.
We also recommend Ameriflex-Flexible Wood Link Matting, Tuf-Tred Tire Fabric Matting, American Counter-Tred Safety Matting, Perforated Corrugated Matting, Ezy-Rug Colored Rubber Link Matting, Tile-Top Sponge Matting.
Service by staff of trained matting experts.
Send us your matting problems.
Write for prices and folder, "A Mat For Every Purpose".

AMERICAN MAT CORPORATION
"America's Largest Matting Specialists"
1733 ADAMS STREET TOLEDO 2, OHIO

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TAKES THE "GUESSWORK" OUT OF STRESS ANALYSIS AND PRODUCT TESTING

Available in a range of gage lengths from 1/16" to 6", SR-4 Strain Gages have revolutionized the art of stress analysis, thereby greatly expanding its field of usefulness in making structures stronger by making them *lighter*. Easily applied, low unit cost. Ask for Bulletin 279.

SIMPLE—ACCURATE—USED THE WORLD OVER

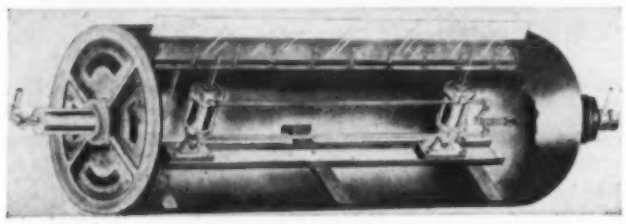
THE BALDWIN LOCOMOTIVE WORKS, Philadelphia 42, Pa., U. S. A. Offices: Philadelphia, New York, Boston, Houston, St. Louis, Chicago, Cleveland, Detroit, San Francisco, Seattle, Washington, Pittsburgh.

TESTING HEADQUARTERS **BALDWIN**

▲ Mention Item NED-3449 when writing ▲

AUTOMATIC CUT-OFF ROLL

Adaptable to manufacture of laminated or combined sheets 12 feet square and larger, Raywood automatic cut-off roll for wet board machines incorporates automatic



cut-off knife electrically controlled and pneumatic-cylinder operated. These rolls are used in producing shoe board, binders board, brake and clutch lining stock, automobile panel board, asbestos-cement products and transformer board. Adjustable counter can be set at any predetermined number of revolution to produce indentical sheets of uniform thickness within limits of vat control. Air pressure released through jets along face of roll and timed with stroke of knife aids in stripping sheet from roll after cut is made. Production is continuous; roll travels at constant rate of speed and is not slowed down or stopped for cut-off. Since action of knife is instantaneous, new plies for next sheet start building up on roll immediately without interruption. Made by **Noble & Wood Machine Co.**, 500 First St., Hoosick Falls, N. Y.

▲ Mention Item NED-3450 when writing ▲

UNIVERSAL CHUCK

Upper illustration shows 5-inch medium-duty universal lathe chuck with two sets of jaws, male and female, and wrench. This chuck has three separate pinions instead of usual single pinion. It can be used on any lathe having 1½-inch 8-thread spindle including most models of Atlas, South Bend, Logan and Clausing; however, conventional back adapter plate permits it to be mounted on any size and type lathe. Body of chuck is semisteel casting with highly ground finish, and jaws are hardened with ground steps to assure tight grip.

Lower illustration shows independent four-jaw chuck with reversible jaws, hardened and ground steps and cast semisteel body with ground finish. These chucks are available in 6 and 8-inch sizes with chuck screws and bearings made of hardened steel. Made by **L-W Chuck Co.**, 51 S. St. Clair St., Toledo, O.

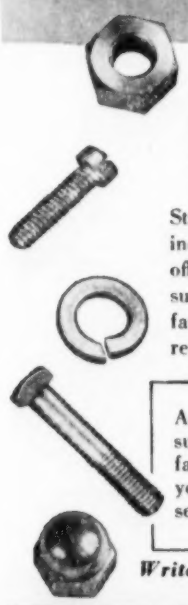
▲ Mention Item NED-3451 when writing ▲

DO YOU KNOW?

■ COMPLETE details regarding operation, types of parts produced and advantages of the Man-Au-Trol automatically controlled horizontal lathe are depicted in 16-millimeter sound motion picture entitled "Three for One". This film is available for showing before industrial and training groups. Write to Bullard Co., 286 Canfield Ave., Bridgeport 2, Conn.

▲ Mention Item NED-3452 when writing ▲

Anti-Corrosive
STAINLESS STEEL FASTENINGS
DO THE JOB *Better*



When You Come to Fastenings, Be Sure You're Right by Specifying Stainless!

Stainless fastenings are a *must* in today's industrial design, since no other material offers such versatility of properties or is so suited to unusual demands. And stainless fastenings *cut costs* by lasting longer and reducing maintenance in many ways!

7,000 Varieties

Anti-Corrosive, America's oldest and largest supplier dealing *exclusively* in stainless fastenings, carries this tremendous stock for your convenience . . . plus a special order service available for occasional odd sizes.

Write TODAY for Folder B-49 for Further Information!

Anti-Corrosive Metal Products Co., Inc.
Manufacturers of STAINLESS STEEL FASTENINGS
CASTLETON-ON-HUDSON, NEW YORK

▲ Mention Item NED-3453 when writing ▲

Now Ready

DIALCO

The NEW HANDBOOK

. . . 192 PAGES of USEFUL INFORMATION

Engineers, designers, purchasing agents —

GET YOUR COPY

You will find complete data on the lamps used in pilot lights.

And illustrations — all full size — of hundreds of items you will use.

There is a table of resistors for operation of lamps on all voltages.

Complete dimensional data on each unit.

More than 2,000 Underwriters' Listed Assemblies.

The DIAL LIGHT COMPANY of AMERICA
Foremost Manufacturer of Pilot Lights
900 BROADWAY, NEW YORK 3, N. Y. TELEPHONE SPRING 7-1300

Write for Handbook B-149

▲ Mention Item NED-3454 when writing ▲

Call for SABIN *labor saving* HAND TRUCKS

A few SABIN *Trucks:*

BARREL TRUCKS
DRUM TRUCKS
KEG TRUCKS
PACKAGE TRUCKS
BOX TRUCKS
COIL TRUCKS
SHOP TRUCKS
TOTE PAN TRUCKS
CARBOY TRUCKS
SPECIAL TRUCKS

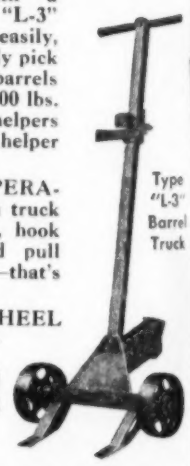
Write for BULLETIN 48

MANY TYPES AND SIZES

One man, with a Sabin Type "L-3" Truck, can easily, quickly and safely pick up drums and barrels weighing up to 800 lbs. No waiting for helpers needed. No helper cost.

SIMPLE OPERATION. You run truck up to container, hook on at top and pull back on handle—that's all.

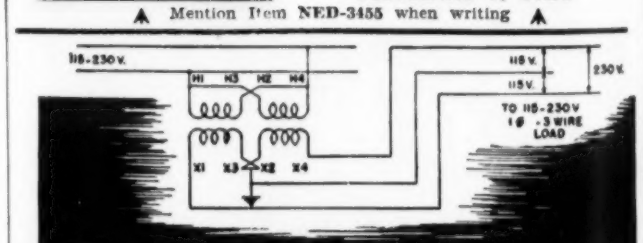
THIRD WHEEL FEATURE insures better balance and added safety in moving loads.



Type "L-3" Barrel Truck

THE SABIN MACHINE CO.
6536 Carnegie Avenue
CLEVELAND 3, OHIO

▲ Mention Item NED-3455 when writing ▲



HOW TO GET 3-WIRE 115/230 VOLT FROM A 2-WIRE PRIMARY CIRCUIT

No need to rewire a job, when you need a 3-wire, 115/230 volt circuit.

Simply connect an Acme Electric 4 winding, insulated type transformer of the proper capacity to the 2-wire primary, make primary and secondary connections as indicated in diagram and you're all set for 3-wire 115/230 volt service.

Acme Electric, all steel, low temperature rise, air cooled transformers are made in capacities from 1/10 KVA to 50 KVA; standard voltages up to 600 volt primary. 2300 volt primary, capacities 1½ to 25 KVA. Write for Bulletin AC 160.

ACME ELECTRIC CORPORATION
305 WATER STREET CUBA, N. Y.

Acme ACME Electric

▲ Mention Item NED-3456 when writing ▲

Question:

WHOSE CABLE ADDRESS IS "DERRICK"?

All over the world, construction men know that "DERRICK" is the cable address of American Hoist and Derrick Company. And that's an easy way for you, too, to remember that this organization has had more than 60 years of derrick experience.

Your inquiry addressed to "DERRICK" brings you quick, intelligent service backed by a large staff of engineering specialists, and the facilities of derrick shops second to none.

Our line is the most complete offered anywhere—stiffleg, guy, steel erectors, gallows frame, gin pole, barge and special derricks, in sizes from 3 to 250 tons capacity.

Would you like a catalog? Just drop us a line.

9204

ANSWER:

American Hoist
and DERRICK COMPANY
St. Paul 1, Minnesota

PLANT NO. 2: SOUTH KEARNY, N.J.

Mention Item NED-3457 when writing

Extra Speed

THREADING 1" to 2" PIPE

RIDGID No. 65R

is semi-automatic, sets to pipe size in just 10 seconds

● The RIDGID 65R is so handy and efficient that it's actually a pleasure to use. In just 10 seconds you're ready to cut perfect threads on 1," 1¼," 1½" or 2" pipe. Workholder sets instantly—only one screw to tighten, no bushings. With the self-contained RIDGID 65R you don't have to bother with extra dies—one set of high-speed steel chaser dies gives you accurate threads on any kind of pipe or conduit, always—easily. Every 65R is factory-tested. Buy from your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS

THE RIDGE TOOL CO. • ELYRIA, OHIO

Mention Item NED-3458 when writing

WIRE PALLET

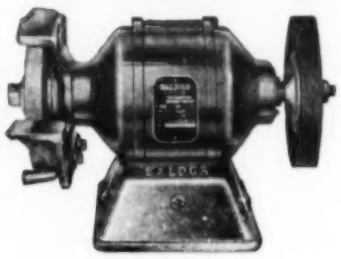
Drums, kegs and other bulky items can be moved easily and safely on these steel wire pallets. Because of their high-strength light-weight ratio and stacking ability, they

economize on space and handling time. Pallets can be obtained with either hot galvanized or aluminum paint finish in three sizes: 40 x 48, 36 x 46, and 48 x 48 inches. Made by **Union Steel Products Co.**, Albion, Mich.

Mention Item NED-3459 when writing

BENCH GRINDER-BUFFER

Powered by ¼-horsepower, 3400-revolution per minute, 110 or 220-volt, full capacitor motor, this 60 series bench type grinder-buffer uses 6-inch 36-grit grinding wheel and 6-inch wire brush or buffing wheel. Wide clearance between motor frame and wheels permits grinding or cleaning of large or odd-shaped parts. Sealed-for-life ball bearings are used. Made by **Baldor Electric Co.**, 4376 Duncan Ave., St. Louis 10, Mo.



Mention Item NED-3460 when writing

HYDRAULIC DYNAMOMETER

Accurate load-testing of electric motors in idle, pull-in, pull-up, full-load and locked conditions can be effected easily by means of hydraulic dynamometer. Since instrument is foot controlled, operator's hands are free; and exact pound-feet of torque can be read directly from gage which is furnished.

Assembly No. SA-483 is of 30-pound-feet capacity and has adapters for ½, ⅝, ¾ and 1-inch motor shafts. It is assembled on 36-inch square steel bench top which can be mounted on standard steel bench legs or on existing benches in test or assembly lines. Also available are No. SA-484 dynamometer with 30 to 300-pound-feet capacity and adapters for 1⅛ to 2⅞-inch motor shafts and model SA-485 which is combination of two machines. Made by **Wagner Electric Corp.**, 6488 Plymouth Ave., St. Louis 14, Mo.

Mention Item NED-3461 when writing

FAST FINISH BAKING

Refinished Relay Covers and other Control Parts Formerly Air Dried in 8 Hours—Now a Better Wrinkle Finish is Baked in ONE Hour with the

Despatch R-S FINISH BAKING OVEN

● Minneapolis-Honeywell Regulator Co. uses the above Despatch R S Oven for refinishing of controls sent in for repair. The black wrinkle enamel on the relay cover shown is baked to an extremely hard, durable finish in 1 hour at 300° F. saving 7 hours of former air drying time! Other parts are baked ½ hour at 350° F. This fast baking of finishes speeds up the entire repair program, improves service to customers.

Despatch R S Ovens are well insulated, very economical, 100% controlled for uniform heat up to 500° F., with temperature variation seldom more than 3° ± F. Built in a range of sizes for a great variety of applications. Tell us your needs—

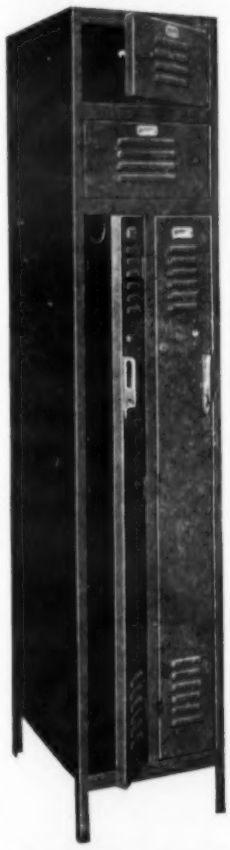
Write for Bulletin on R S Ovens.

DESPATCH OVEN CO. Established in 1902

Manufacturers of ovens for:
Paint Finishing, Dehydrating, Curing, All Industrial and Laboratory Applications

325 Despatch Bldg., Minneapolis 14, Minn.

Mention Item NED-3463 when writing



A SPACE SAVER!

The Penco Two-Person Steel Locker, Type 734, is designed for use in cramped quarters or for any installation where a saving in floor space is an important consideration. Two persons are comfortably accommodated in the space usually allotted to a single person.

The Usual High Quality Penco Construction Conforms to Federal Government Specifications

Write for literature. Permit Penco Engineers to determine the most efficient arrangement for your requirements.

PENN METAL CORPORATION of PENNA.

1869 Penco
Reg. U. S. Pat. Off.

L. Lewis Sagendorph, Founder,
82 Oregon Ave.
Philadelphia 48, Pa.

Fabricators of Steel Lockers, Cabinets, Shelving and Corrugated Metal Pipe
In Business Continuously Since 1869

Mention Item NED-3464 when writing

NEW COMPACT DESIGN CYLINDERS

● HYDRAULIC
● WATER
● AIR

● Immediately available in a full range of sizes from 1½ to 8-inch bores.

SAVE SPACE, MAINTENANCE, COST

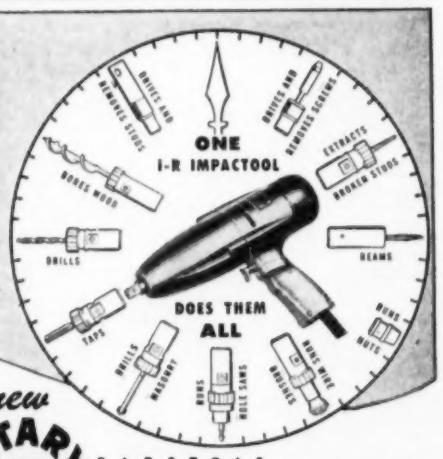
Simplified design of the O-M cylinder eliminates tie-rods, requires minimum space for installation. All body parts machined steel (not cast)—all bearing surfaces bronze. No bolts or screws—repacking is a matter of minutes.

Continuous duty to 1,500 cycles per minute *guaranteed*. Simplified cushion, no ball check required. Ports adjustable to any angle. Interchangeable mounting brackets. Simplified design makes lower cost possible. *Write today for details!*

ORTMAN-MILLER
MACHINE CO., INC.
1222-4 150th Street, Hammond, Indiana

Mention Item NED-3462 when writing

NOW IS THE TIME to cut job costs



with the new

SIZE 8U ROTARY ELECTRIC IMPACTOOL Rated capacity ⅝" bolt size

KIT No. 1—IMPACTOOL, with standard equipment, plus a complete assortment of attachments in a Handy De Luxe Case. 110V or 220V, AC or DC models available. 422-18

Not eleven tools to do eleven jobs—but eleven tools in *one*—a real multi-purpose tool—an engineering marvel made possible by the amazing power produced by thousands of rotary impacts.

There is no kick or twist even on the toughest jobs—motor burn-outs are eliminated because the motor continues to run smoothly even if you stall the spindle completely—and you will save time and money on all operations—nut running as much as 90%.

An I-R Impactool pays for itself in 30 days with normal use.

Ask your Ingersoll-Rand distributor for a demonstration.

Ingersoll-Rand
11 Broadway, New York 4, N. Y.
ORIGINATOR OF IMPACTOOLS—both air and electric

Mention Item NED-3465 when writing

and now...

Wood's

"SURE-GRIP" PULLEYS and SHEAVES

with the SAME Interchangeable Hub

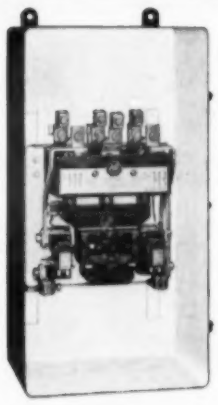
Now, the one-piece, flanged and split tapered "Sure-Grip" Hub—applicable to both "Sure-Grip" Pulleys and Sheaves—permits you to carry a supply of pulleys and sheaves without an additional stock of hubs.

Write for detailed information.

T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.

Mention Item NED-3466 when writing

Bulletin 709 Solenoid Starters



A-B Quality

- Silver-alloy contacts never need cleaning
- Only one moving part — no pins or pivots

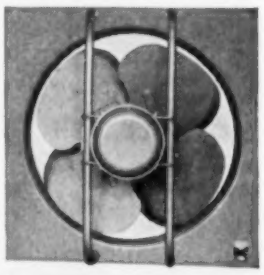
Double-break, silver-alloy contacts never need cleaning or filing, because silver oxides that form are good electrical conductors. Less maintenance means longer contact life, as well as eliminating maintenance time and trouble. There is only one moving part. Bearings, pins, pivots, hinges, and flexible jumpers—potential troublemakers—are all eliminated. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

Mention Item NED-3467 when writing

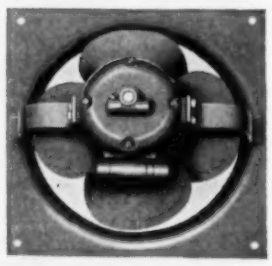
Prompt Deliveries on *Peerless* Exhaust Fans

A number of sizes and models of Peerless exhaust and ventilator fans are now available for prompt shipment. This is your opportunity to meet your needs with fans of proven performance, attractive design and quiet operation—all carrying the famous Peerless name and powered with Peerless Motors. Send us your requirements.



DE LUXE FANS

Here is an *extremely quiet*, variable speed, attractively designed fan for stores, restaurants, hotels and similar installations. Totally enclosed motors exclude dirt and moisture. Fans may be mounted vertically or horizontally. Supplied for single speed, two-speed, or three-speed operation. Finished in Buckingham grey. 16" to 30" sizes.



SMALL VENTILATOR FANS

These fans provide plenty of air movement for homes, small grills and offices. Motors are totally enclosed. Fan and panels finished in Buckingham grey. Sizes—10-inch 6 blade; 12- and 16-inch 4 blade; 12-inch multiblade.

THE *Peerless* ELECTRIC CO.
WARREN, OHIO

Mention Item NED-3468 when writing

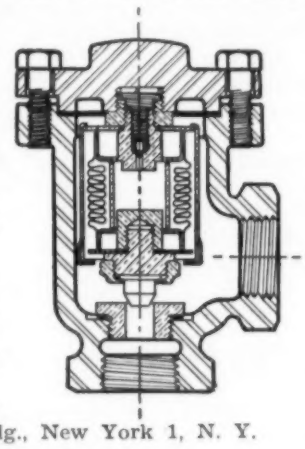
PORTABLE HOIST

Capable of lifting 1½ tons, Lug-All portable aluminum alloy hoist weighs only 8½ pounds and can be operated by one man. Designed with minimum of parts, it can be repaired on job without special tools. Lever is 20 inches in length, can be reversed for ease of operation in tight places and will bend before any part reaches breaking point. Hoist uses 133-strand aircraft cable which reels out without snagging and is shielded to prevent backlash. Limit for cable is 15 feet, at which length hoist capacity is 1500 pounds. When cable is doubled, capacity is increased to 1½ tons. Made by **Lincoln Precision Machining Co.**, North Grafton, Mass.

Mention Item NED-3469 when writing

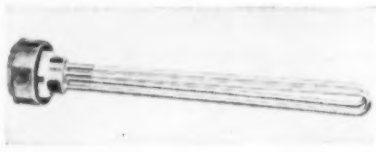
THERMOSTATIC STEAM TRAPS

Stainless steel element incorporated in No. 9-300 thermostatic steam traps makes them usable for pressures up to 300 pounds per square inch and for service where condensate is corrosive. Since traps can reach rated capacities with drop of only 10° F from steam temperature, they have large condensate and air venting capacities. Construction consists of cast steel body and cap; welded stainless steel thermostatic bellows; renewable stainless steel valve head and seat; and brass head holder, adapter and shield. Valves are available in ½, ¾, 1, 1¼, 1½ and 2-inch sizes. Made by **Sarco Co.**, Empire State Bldg., New York 1, N. Y.



Mention Item NED-3470 when writing

IMMERSION HEATERS

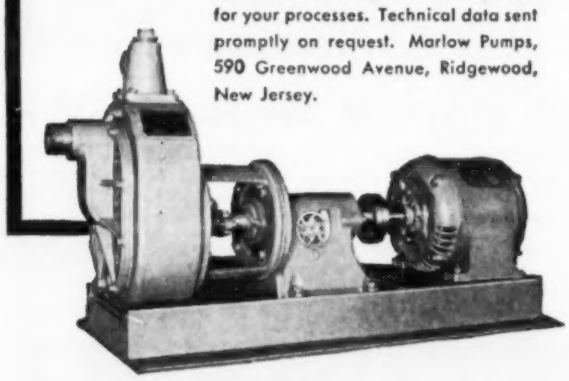


For heating wide range of industrial chemicals, strong alkaline cleaners, extra-heavy degreasing solutions, oils of high sulfur content and many other viscous and corrosive liquids, series of all-stainless or all-Inconel Chromalox electric immersion heaters can be obtained in ratings from 1 to 15 kilowatts for operation on 230, 460 and 550 volts single phase. Heaters are constructed of hair-pin shaped heavy-duty Chromalox tubular elements welded into solid screw plug with 2-inch standard pipe thread and heavy 3-inch hexagonal section. Heating elements are die pressed to triangular cross section to obtain high mechanical strength and dense refractory. Heated length of elements ranges from 12 to 50 inches. Units are normally intended for water-type solutions but are derated for use in more viscous liquids. Made by **Edwin L. Wiegand Co.**, 7509 Thomas Blvd., Pittsburgh 8, Pa.

Mention Item NED-3471 when writing

THIS CENTRIFUGAL PUMP LIFTS HIGH PRIMES ITSELF

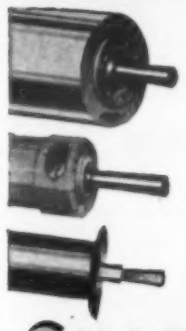
Marlow Self-Priming Centrifugals prime *automatically* on suction lifts as high as 25 feet. Handle water, coolants, chemical solutions, volatile fluids, liquids containing abrasives, liquids with viscosities to 500 S.S.U. Do not vapor-lock. 1½ to 10-inch sizes; 15 to 3500 GPM. Investigate Marlow pumps for your processes. Technical data sent promptly on request. Marlow Pumps, 590 Greenwood Avenue, Ridgewood, New Jersey.



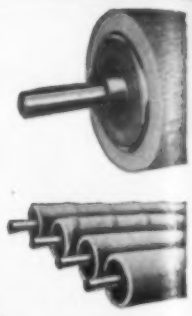
MARLOW PUMPS

Manufacturers of Quality Pumps Since 1924

Mention Item NED-3472 when writing

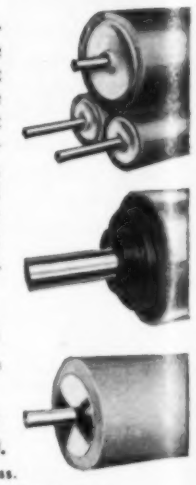


MANY INDUSTRIAL ROLL PROBLEMS are solved by using



SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.



SEND FOR NEW CATALOG NO. 48

Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
73 Maple Street, Orange, Mass.

*Reg. U.S. Pat. Off.

Mention Item NED-3473 when writing

Solenoid STAINLESS STEEL *Valves*

ACTUAL SIZE

★ Standard pressure range, 5 to 250 psi
★ Dimensions 2¾" high x 1⅝" dia.
★ Impregnated coils withstand moisture and condensation
★ Soft insert seats prevent leakage
★ Spring loaded for positive action
★ Stainless steel parts highly resistant to corrosion and wear
★ Power consumption 10 watts max.
★ Pipe connections to specification
★ Also many special valves for handling pressures from 5 to 850 psi

THREE WAY - TWO POSITION
TWO WAY - NORMALLY CLOSED
TWO WAY - NORMALLY OPEN

Skinner will be pleased to make recommendations on your particular design applications — they have for hundreds of others. Write today for details and catalog.

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
135 Belden Ave., Norwalk, Conn.

Mention Item NED-3474 when writing

ENJOY A REZNOR THIS SUMMER

Fan circulation for hot days and gas heat any day. You get both by installing Reznor heaters now—it's easy. Avoid disappointment and delays which accompany fall orders. More Reznors in use than any other. Catalog U-45 shows special features . . . write today.

REZNOR MANUFACTURING CO.
14 UNION ST. · MERCER, PENNA.

Mention Item NED-3475 when writing

PROTECTION from THE WET!

with

TOWER'S

OILED or RUBBER GARMENTS

The use of TOWER'S protective garments reduces to a minimum, loss of man-hours because of exposure to the wet, dampness, spraying or foul weather. All garments are scientifically designed to afford maximum working comfort and protection. Made in bright yellow, which in itself provides an important protective feature, there is a TOWER'S garment especially adaptable for every type of industrial activity.

For folder of styles and detailed information write Department ND.

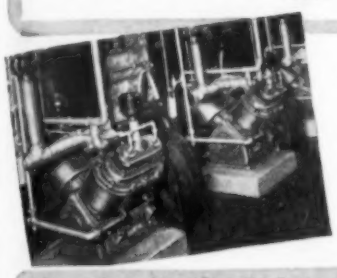
OILED RUBBER

TOWER'S FISH BRAND — A. J. TOWER CO. — TOWER'S ARROW BRAND

24 SIMMONS ST. BOSTON, MASS.

Mention Item NED-3476 when writing

Air for any use



CURTIS AIR COMPRESSORS

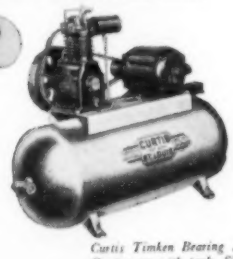
Curtis Air Compressors are providing an adequate, economical supply of air to meet every imaginable requirement throughout the world.

CURTIS (Timken Bearing Equipped) Compressors offer

- Large capacity per dollar of first cost
- High volumetric and mechanical efficiency assuring maximum air delivery per unit of power input
- Low maintenance expense

You get these advantages because Curtis Air Compressors have such design advantages as —

- Timken Roller Bearings
- Carbon-free disc valves
- Fully enclosed crankcase
- Self-oiling—positive lubrication
- Accessible for inspection, adjustment or replacements
- Precision made



Curtis Timken Bearing Air Compressor with tank. Sizes from ¼ to 10 H. P. Industrial Air Compressors up to 50 H.P.

CURTIS — 95 Years of Successful Manufacturing

PNEUMATIC MACHINERY DIVISION

of Curtis Manufacturing Company

1979 Kienlen Avenue • Saint Louis 20, Missouri

T-49-2A

Mention Item NED-3477 when writing

HOW TO REDUCE COST OF SHIPPING and RECEIVING STEEL

American MonoRail Overhead Handling Systems save labor, save time and increase production.

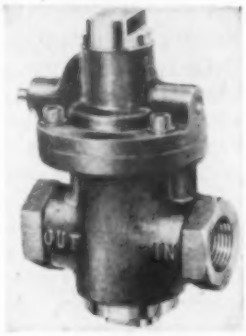
American MonoRail engineers will gladly show how automatic handling will pay and save in your plant. Send for Bulletin C-1 showing successful applications.

THE AMERICAN MONORAIL COMPANY

13116 ATHENS AVE. • CLEVELAND 7, OHIO

Mention Item NED-3478 when writing

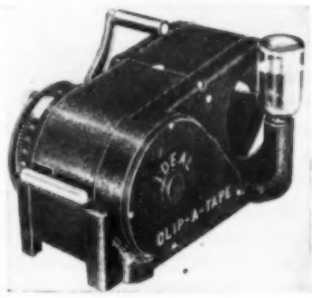
COOLANT CONTROL VALVE



Generally activated by same power which moves machine cylinder, "Water-Saver" valve for controlling coolant is automatic in operation and requires no electrical or mechanical motivation. Control is straight-way or shut-off valve normally open or closed to water supply. It allows coolant to run when needed but automatically turns it off between required periods. Time delay adjustment is set for maintaining coolant flow for period from 0 to 2¼ minutes after machine cycle. Pressure booster modification is available for use when cylinder pressure is less than water pressure. Made by **Ross Operating Valve Co.**, 120 E. Golden Gate Ave., Detroit 3, Mich.

Mention Item NED-3479 when writing

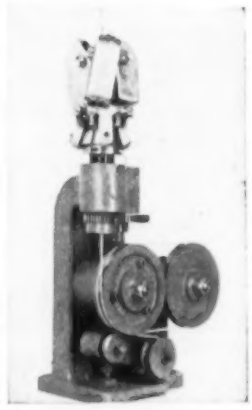
GUMMED TAPE DISPENSER



Capable of moistening, measuring and cutting up to 36 inches of gummed tape per half-second, improved model Clip-A-Tape gummed tape dispenser facilitates sealing, batch taping and general wrapping. Tape length control can be adjusted for any length up to 3 feet. Positive power brake lever prevents unmoistened overrun on dispensing, and automatic moisture control with gravity feed applies proper amount of water to tape. All exposed components are rustproof, and self-sharpening shear-type cutting knife with gravity pawl clutch is used. Made by **Ideal Stencil Machine Co.**, Dept. NED, Belleville, Ill.

Mention Item NED-3480 when writing

SPIRAL MARKING MACHINE



Plastic insulated wire or similar material can be color coded by JLE marking machine which will apply spiral stripes in up to three different colors simultaneously. Striping head is rotated by passage of wire through machine which can handle from 3/64 to 0.2-inch diameter wire. Machine with capacity up to 5/16-inch can be supplied also at extra cost. When proper ink drying distance or equipment is provided, wire speeds up to 200 feet per minute are possible. Striping wheels are 1/32 and 1/16-inch wide. Available as optional equipment are ink drying tube, stand with wire return guide sheave, motor driven rotator for striping head for wires not flexible enough to bend around 4-inch diameter capstan wheel, and take-up and pay-off equipment. Made by **James L. Entwistle Co.**, 43-D Church St., Pawtucket, R. I.

Mention Item NED-3481 when writing

STOP INEFFICIENT PRODUCTION

by using STICHT Tachometers, portable or stationary types

DON'T GUESS

We have in stock for immediate shipment the greatest assortment of tachometers in America. Write for condensed Tachometer Bulletin No. 1046.

CHECK RPM AND RATE OF PRODUCTION

Such as FPM, YPM, Sheets per minute, Minutes Baking Time, Impressions per Hour, or others

CONSTANTLY

by mounting STICHT Stationary Tachometers on your machines. 4", 5½", 8", 10" and 20" dials. Bulletins Nos. 795, 796, 797 and 798

HERMAN H. STICHT CO., INC.

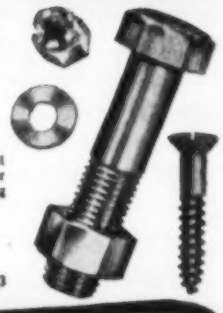
27 PARK PLACE NEW YORK 7, N. Y.

Mention Item NED-3482 when writing

At only a fractional cent more YOU CAN HAVE ....

13 ADVANTAGES of HARPER NON-FERROUS and STAINLESS STEEL EVERLASTING FASTENINGS

1—Resistances to Rust and Corrosion 2—Resistance to High Temperatures 3—Non-Magnetic 4—Non-Sparking 5—Re-Usable 6—Attractive Appearance 7—Easy to Clean 8—High Strength 9—Long Life 10—Lower Ultimate Cost 11—Resistance to Fatigue 12—Easy to Plate and Finish 13—Resistance to Abrasion and Wear



ALL THESE ADVANTAGES over common steel fastenings at only a fractional cent more than you are now paying for common steel. 6000 ITEMS IN STOCK. Write for catalog giving dimensions, threads, heads and sizes.

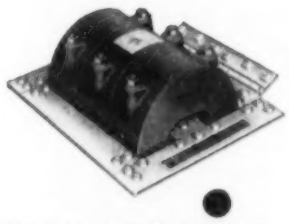
THE H. M. HARPER COMPANY
General Offices and Plant
Morton Grove, Illinois, (Suburb of Chicago)
New York Office and Warehouse: 200 Hudson Street, New York 13
Branch Offices: Atlanta, Cambridge, Cincinnati, Cleveland, Dallas, Denver, Detroit, Grand Rapids, Los Angeles, Milwaukee, Philadelphia, Pittsburgh, St. Louis, San Francisco, Seattle, Toronto (Canada).

HARPER

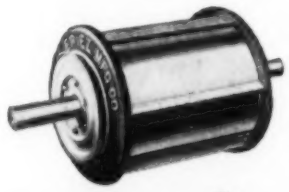
Mention Item NED-3483 when writing

To Save Time and Costs do it with Eriez Non-Electric Magnets

Complete Line



The Eriez Non-Electric Permanent Jumbo Plate Magnet.



The Eriez Non-Electric Permanent Magnetic Drum.

The Eriez Non-Electric Permanent Magnetic Pulley.

The New Eriez Non-Electric Permanent Pipe Roll Magnet.

SEE OUR CATALOG IN SWEET'S — See our catalog P 1b/2 Sweet's Processing Industries File

ERIEZ Non-Electric Permanent Magnets can handle many of your separation problems more efficiently and economically than any other method. Eriez versatility of application is almost unlimited; perhaps it's the separation of ferrous from non-ferrous materials, the protection of machines, the conveying of pipe, angles, sheet steel etc., or for use in the foundry, galvanizing baths, or machine operations. Whatever the job, there's an Eriez alnico assembly, designed specially for it . . . Eriez Permanent Magnets are rugged—they have to be to operate efficiently in temperatures up to 750° and where they are completely submerged in molten metals. Eriez magnets save you money. Maintenance and operating expense are eliminated. No attendent electrical equipment to get out of order. First Cost is Last Cost.

Perhaps you have a metal separation or material handling problem that Eriez can solve easily and economically. Magnetic application engineering is yours for the asking. *Representatives in all principal cities. Write, wire or phone Eriez Manufacturing Co.*

Eriez GIVES YOU THESE ADVANTAGES

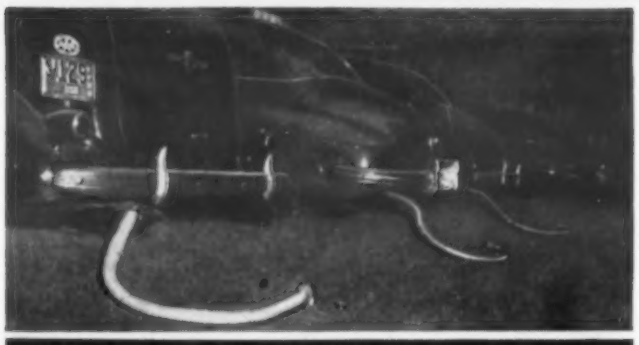
1. Superior Cleaning Ability.
2. No Wiring for Electric Current Needed . . . No Coils to Burn Out.
3. Cool Running . . . No Loss of Magnetism Through Heating Up.
4. Not Affected by Moisture or Wet Materials.
5. No Operating Costs . . . First Cost is Last Cost.
6. Minimum Installation Cost.
7. Simple . . . Powerful . . . Permanently Magnetized.
8. Uninterrupted Operation . . . Top Efficiency Always.
9. Easily Installed in Original Equipment.

Pioneer of PERMANENT Magnetic Separation

ERIEZ MANUFACTURING CO.

59 East 12th St. • ERIE, PA.

Mention Item NED-3484 when writing



REMOVING CARBON MONOXIDE GAS WITH VACUUM

No more slow-downs or absentees due to carbon monoxide gas in the modern garage equipped with the Spencer Garage Exhauster System. Rubber hose connected to each car leads to a pipe imbedded in the floor which is connected to a Spencer Vacuum Producer overhead on the wall. The cost of the equipment is insignificant compared to the cost of the garage. The cost of operation is little compared to the pay roll.

Spencer is also used in auto laundries to clean cars, inside and out.

356-U

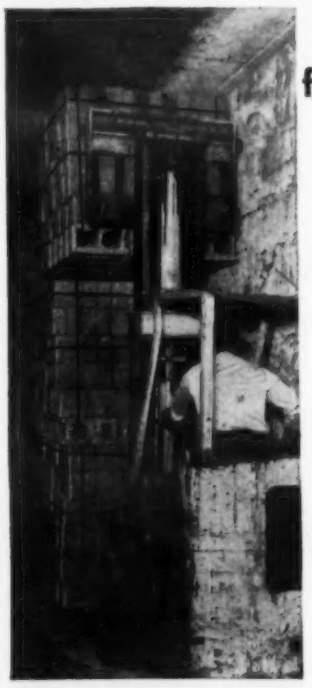
150 USES FOR VACUUM...ASK FOR BULLETIN

SPENCER VACUUM CLEANING
HARTFORD

THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

▲ Mention Item NED-3486 when writing ▲

STEEL STRAPPING speeds shipping to keep up with faster production flow



The Plasticrete Corp., Hamden, Conn., worked out a faster production system on cinder blocks. Problem: how to package these "cubes" of 90 or more blocks for shipping at this speeded up production rate. Solution: tying the blocks together into one compact unit with Stanley Steel Strapping. Just another packaging, shipping accomplishment for the Stanley Steel Strapping System. Write for information on the complete line . . . reels, tools and accessories. The Stanley Works, Steel Strapping Division, 177 Lake St., New Britain, Conn.

STEEL STRAPPING AND CAR BANDING SYSTEMS

STANLEY
Reg. U.S. Pat. Off.
HARDWARE • HAND TOOLS
ELECTRIC TOOLS • STEEL STRAPPING

▲ Mention Item NED-3487 when writing ▲

You don't have to be BIG to be EFFICIENT!

847550

New UNLOADER-LOADER Team For All Materials — All Sizes of Plants

The new B-G 363 Unloader-Stockpiler-Loader is an all-purpose machine; handles all bulk materials—up to 200 T.P.H. Also handles bagged and packaged goods. All new, heavy duty, highly portable! The 358 Hopper Car Unloader clears a car of material in 45 minutes! Positive, non-slip hopper-bottom car unloading for all bulk materials. Easy to spot over rails or in pits. Truck-towed portability.

Send for new Bulletins! On the 24" Belt Conveyor, Bulletin 363. On the Hopper Car Unloader, Bulletin 358. Address

Barber-Greene Company
Aurora, Illinois

▲ Mention Item NED-3488 when writing ▲

STEEL CABINET

Having ten drawers with adjustable dividers to make from 1 to 12 compartments, this steel cabinet is adaptable for various uses in factories and offices. Drawer pulls are equipped with identification card holders, and cabinets are embossed so that several can be stacked. Constructed of welded heavy gage steel which is finished in brown Hammerloid, cabinets measure 16¼ inches wide, 8 inches high and 10 inches deep with drawer depth of 1⅜ inches. Made by **Model Box & Cabinet Co.**, Room 1930, 205 W. Wacker Dr., Chicago 6, Ill.

▲ Mention Item NED-3489 when writing ▲

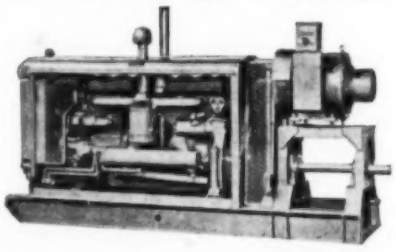
VOLTAGE REGULATOR

Offering same design characteristics as higher capacity units in line, Stabiline type IE51005 is 500 volt-ampere instantaneous electronic voltage regulator. Input voltage can vary from 95 to 135 volts, and output range is adjustable between 110 and 120 volts. Rated output is 0 to 500 volt-amperes at 60 cycles, plus or minus 10 per cent. Load power factor range varies from 50 per cent lagging to 90 per cent leading, and waveform distortion does not exceed 3 per cent. Stabilization and regulation can be obtained within very narrow limits of preset values. Made by **Superior Electric Co.**, 93 Hannon Ave., Bristol, Conn.

▲ Mention Item NED-3490 when writing ▲

DIESEL POWER UNITS

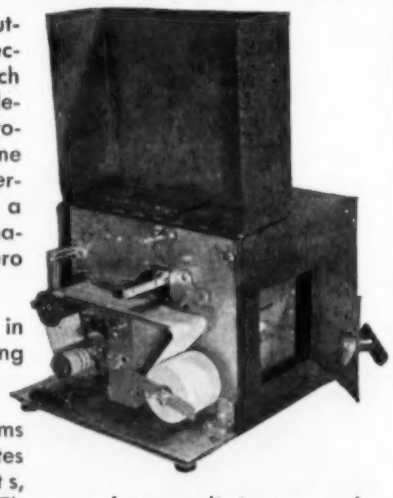
Capable of supplying both mechanical and electrical energy simultaneously, Mech-Elec diesel power units are intended for applications where advantages of mechanical drive are desirable for major load but where flexibility of electric energy is also desirable for secondary loads such as conveyors, blowers and lighting. Any fixed or variable proportions of mechanical and electrical loads can be handled providing combined total does not exceed rated capacity of engine and that electrical load does not exceed 50 kilowatts. Generator can be operated without engaging mechanical drive.



Two models are available, model ME-6 rated at 135 horsepower continuous, 160 horsepower intermittent duty and model ME-66 rated at 150 horsepower continuous, 180 horsepower intermittent service. Both models are equipped with 50-kilowatt generators. Engine ratings indicate total power available for mechanical output. Made by **Murphy Diesel Co.**, 5303 W. Burnham St., Milwaukee 14, Wis.

▲ Mention Item NED-3491 when writing ▲

A RECORDING MECHANICAL COUNTER
that meets all Industrial Requirements



Operates on the output of a photo-electric cell, limit switch or any similar device. Records production against time and maintains a permanent record on a 2¼" tape. Automatically resets to zero every hour.

Here is a step in production counting that permits a complete analysis of efficiency in terms of hours or minutes instead of shifts, days or weeks. The reset feature eliminates much computation. It simplifies the entire task of studying production flow and determining how to maintain a high production level.

STREETER-AMET COMPANY
AUTOMATIC WEIGHT RECORDERS & SCALES
HIGH SPEED COUNTERS — SINCE 1888
4105 Ravenswood Avenue Chicago 13, Ill.

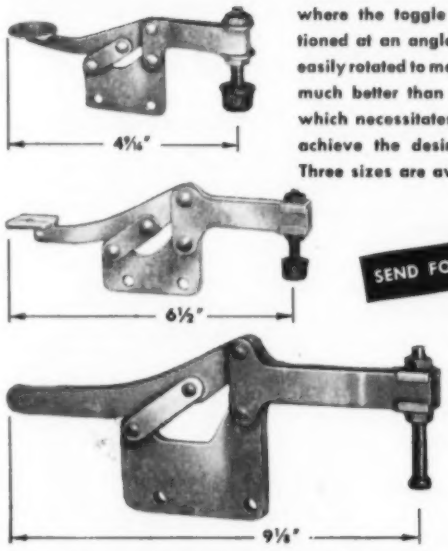
▲ Mention Item NED-3492 when writing ▲

USE Wirebound BOXES and CRATES

Wirebound Box Manufacturers Association, Room 1828 Borland Building Chicago 3, Illinois

▲ Mention Item NED-3493 when writing ▲

Where jobs require ANGLE CLAMPING



This side mount clamp is ideal to use where the toggle bar must be positioned at an angle. The clamp can be easily rotated to meet such requirements much better than one with tee base, which necessitates blocks or shims to achieve the desired angular mount. Three sizes are available.

SEND FOR NEW BULLETIN

Other clamps we make include: vertical and horizontal types with various mounts, cam-action and air-operated clamps, "C" clamps, pliers, and wrenches. Ask for new, complete catalog.

Model HS-200 4⅝" long, recommended pressure 200 lbs.
Model HS-400 6½" long, recommended pressure 400 lbs.
Model HS-600 9⅛" long, recommended pressure 600 lbs.

KNU-VISE PRODUCTS **LAPEER MFG. CO.**
3056 DAVISON ROAD • LAPEER, MICHIGAN

▲ Mention Item NED-3494 when writing ▲

Save fingers! Littell

AIR-BLAST VALVES

—they'll do the job! They automatically eject pieces up to 2 lbs., depending on width of nozzle used and air pressure. They keep hands out of danger zone, as pieces can be fed into press with Littell Vacuum or Mechanical Pickers. Air operates only 1/10th the complete cycle of press—saving air.

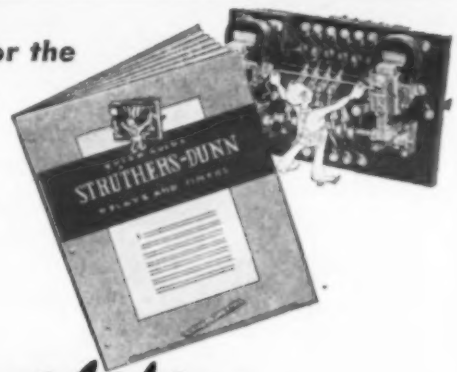
Cam is adjustable and fastens to end of crankshaft—timed so that pieces are ejected as freed. Air nozzle is adjustable to any height or position. Littell makes a complete line of press-room equipment, such as Reels, Roll and Dial Feeds, Straighteners, etc.

REQUEST BULLETIN

F. J. LITTELL MACHINE CO.
4161 Ravenswood Ave., CHICAGO 13, ILL.

▲ Mention Item NED-3495 when writing ▲

Yours for the asking!



Simplifies

RELAY SELECTION!

Write today for your copy of this new *"Quick Guide To Relay Selection"!*

In it you will find condensed and simplified data covering the most widely used Struthers-Dunn relays and timers listed logically according to function.

The whole idea has been to make it easy for you to select exactly the right relays for your applications.

ASK FOR CATALOG G.

STRUTHERS-DUNN

5,348 Relay Types

STRUTHERS-DUNN, INC., 150 N. 13th Street, Philadelphia 7, Pa.

▲ Mention Item NED-3496 when writing ▲

MAKE YOUR PRODUCT FULLY NON-CORROSIVE!

STAINLESS STEEL SCREWS

Machine, Self-tapping, Set, Socket, Wood Screws. Also Nuts, Bolts, Pins, Washers, Rivets—all types and sizes— delivered immediately from America's largest stock.

IMMEDIATE DELIVERY

For Catalog No. 49L, write today, on your letterhead.

Prompt Shipment on Specials

MANUFACTURERS SINCE 1929

ALLMETAL Screw Products Co., Inc.

33 GREENE STREET, NEW YORK 13, N. Y.

▲ Mention Item NED-3497 when writing ▲

Knives of HAYNES STELLITE *Alloy Stay Sharp*

Industrial knives, made from rolled HAYNES STELLITE alloy sheet, retain their keen cutting edges long after steel knives would be unfit for use. The inherent hardness of this alloy and its unusual resistance to wear, heat, and corrosion assures superior performance and economical service.

Many styles of knives—such as the rubber cutter knives illustrated—are available. Other machinery parts are also supplied. Send in your drawings for quotations or write for more detailed information.

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

General Offices and Works, Kokomo, Ind.

"Haynes Stellite" is a registered trade-mark of Haynes Stellite Company.

▲ Mention Item NED-3498 when writing ▲

DIAMOND DRESSING TOOL

Designed for both rough and finishing dressing or truing on surface, cylindrical or centerless grinder wheels, IC-4 universal diamond dressing tool will perform well on all bond hardnesses of either aluminum oxide or silicon carbide wheels. Dresser employs numerous small diamonds evenly distributed throughout Colmonoy wear-resistant matrix to produce sharp cutting edge. Tool does not require resetting and can be used up completely without removal from grinder. Made by **Diamonds & Tools, Inc.**, Dept. NE, 19345 John R, Detroit 3, Mich.

▲ Mention Item NED-3499 when writing ▲

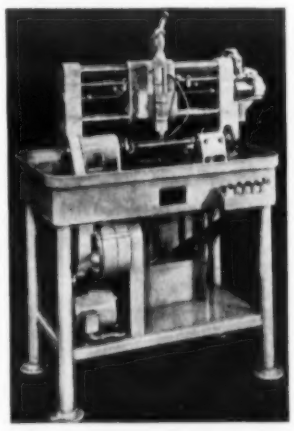
WEIGHT-PER-GALLON CUP

Weight and specific gravity of paint and other mixtures can be checked quickly by means of this adjustable weight-per-gallon cup. Cup is machined from aluminum bar stock, weighs approximately 110 grams net and has volume of 83.3 cubic centimeters. Weight in grams of this amount of liquid multiplied by 0.1 gives weight in pounds per gallon. When multiplied by 0.012, it gives specific gravity.

Compensation pin permits volume correction of 0.5-cubic centimeter to be made for size changes resulting from wear through cleaning. Overflow vent on cover and adjusting pin are eccentrically located to prevent entrapment of air bubbles when cover is placed on filled cup. Made by **Henry A. Gardner Laboratory,** 4723 Elm St., Bethesda 14, Md.

▲ Mention Item NED-3500 when writing ▲

CYLINDRICAL FINISHER



Designed to handle medium to small cylindrical parts such as plug gages, hydraulic cylinders, pistons and shafts of all types, model 50 general-purpose cylindrical Superfinisher has capacity of 12 inches between centers, 8½-inch swing with 3-inch maximum working diameter and workpiece weight capacity up to 100 pounds. Variable spindle speeds from 40 to 1000 revolutions per minute allow operator to select proper speed for degree of surface finish required. Quill is spring loaded and is adjustable from 0 to 45 pounds per square inch. Machine is equipped with adjustable tailstock and complete lubrication system. Attachments available include motor driven traverse shown in illustration and centerless roll drive attachment for parts that have no centers. Made by **Gisholt Machine Co.,** Madison 10, Wis.

▲ Mention Item NED-3501 when writing ▲

Are you Twisting "Bugs" into your products ?

Improper tightening of screws, nuts, and threaded parts, accounts for many of the "bugs" that develop in mechanisms . . . causes binding, breakage, chatter, thread stripping, leakage, squeaks and loosening and loss of parts.

These mechanical faults can be eliminated with a resultant improvement in product quality by torquing all critical points with STURTEVANT TORQUE Wrenches. Inherently and permanently accurate, STURTEVANT TORQUE WRENCHES are as easy to use as an ordinary socket wrench, and are extremely fast on the production line.

Write for Bulletin SW-22

P. A. STURTEVANT CO.

ADDISON QUALITY ILLINOIS

▲ Mention Item NED-3502 when writing ▲

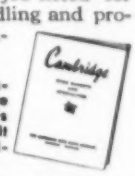
complete FOR SERVICE

consult Cambridge ON FABRICATED WIRE ASSEMBLIES FOR BULK HANDLING & PROCESSING

Woven wire slings reduce accidents—simplify bulk handling and shipping of pipes, tubes, shapes, etc.

Special fixtures for heat treating and other processes.

Cambridge offers the engineering and fabricating facilities to supply you with baskets, trays, racks, crates or specialized fixtures in any metal or alloy . . . custom-built for your particular requirements. »»» Cambridge wire fabrications are "job-fitted" for all types of bulk handling and processing to insure maximum efficiency.



For information on the complete Cambridge line, write for your FREE copy of this illustrated booklet. Consult your Cambridge Field Engineer on any problem.

There's a Cambridge Sales Engineering Office near you!

Cambridge Wire Cloth Co.

Wire cloth in rolls. Any metal or alloy, mesh or weave.

Department C
Cambridge 5, Md.

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

▲ Mention Item NED-3503 when writing ▲

MATERIAL HANDLING UNITS

That Cut Down Production Costs

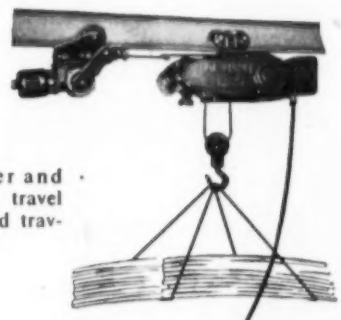


Fig. 460: The Trojan Tractor (Monorail Type) Motor Driven Pusher and Puller for speeding-up travel of hoist and other hand traveled units. *Bulletin 810*

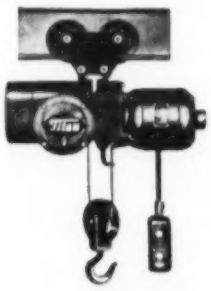


Fig. 401: The Titan Hoist 250 lbs. to 2000 lbs. The *little* hoist with *Big Hoist* design and construction. *Bulletin 801A*

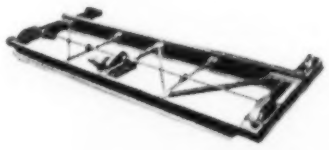


Fig. 426: Motor Traveled, Single Beam Crane. *Bulletin 695*

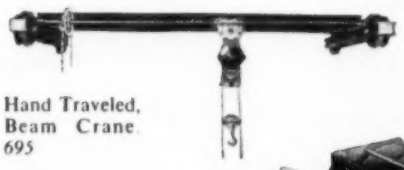


Fig. 71. Hand Traveled, Single Beam Crane. *Bulletin 695*

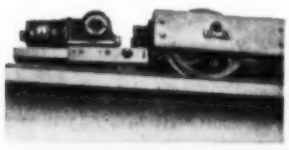


Fig. 372: Electric Winch; capacities up to 6000 lbs. on a single line. *Bulletin 668*

Fig. 470: The Trojan Tractor (Top Mounted Track Type) for power traveling existing hand cranes. *Bulletin 810*

Ask for Descriptive Bulletins and Prices

DETROIT HOIST & MACHINE CO.

8213 Morrow Street • Detroit 11, Michigan

▲ Mention Item NED-3504 when writing ▲

MULTIPLE DRILLING with a MULTI-DRILL INCREASES CAPACITY UP TO 800%

ADJUSTABLE TO ANY HOLE PATTERN FITS ANY DRILL PRESS

If your production requires drilling from 2 to 8 holes in a work piece, a MULTI-DRILL will cut costs and speed output up to 800%. The MULTI-DRILL is universally adjustable to any hole pattern—is compactly built to permit easy, unhampered operation with drill jigs or other special fixtures. Ruggedly built to take the wear and tear of high production work, the MULTI-DRILL will handle your long and short run multiple drilling jobs with ease and economy. The MULTI-DRILL will drill on hole centers as close as ½"—handle drill sizes up to ⅜" in steel. Special adaptations available.

There is a Commander MULTI-DRILL Distributor in your area. Write for his name, literature and complete details.

COMMANDER MFG. CO.
4220 WEST KINZIE ST., CHICAGO 24, ILL.

Product of *Commander* — Builder of the *Commander Tapper*

▲ Mention Item NED-3505 when writing ▲

Before

Pittsburgh CARGOTAINERS reduce handling costs 65% at Wagner Electric

After

One of the most recent materials handling problems solved at Wagner Electric Corp. was the unloading and delivering of steel backing plates in the truck and passenger brake division.

With the installation of collapsible, wire-mesh Pittsburgh Cargotainers, they report that "Handling costs are down more than 65%, and twice as many plates can be stored in any given area."*

BEFORE: Previously, the steel backing plates were unloaded by hand from roller conveyors then stacked by hand in bins. When needed, the shields were loaded manually on specially designed hand trucks for delivery to operation.

AFTER: Now fork truck picks up loaded Cargotainers from tailboard of delivery truck. These steel shields have been loaded directly into the collapsible wire containers in the truck in which they were received.

A second handling has been eliminated at storage where Cargotainers can be stacked without need for unloading. The efficiency of stacking the Cargotainers allows twice as many plates to be stored in any given area.

Fork truck now delivers containers from storage to operator, who takes parts from container instead of from hand-loaded truck. When empty, Cargotainers fold up, occupy minimum of space until used at beginning of next cycle.

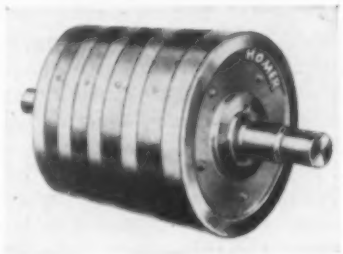
You will be interested to know how Pittsburgh Pallets and Cargotainers can reduce your materials handling costs. For your copy of our catalog, write to Department NED, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pa.

**From "Wagner Electric Corp.," FACTORY, January, 1949.*

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

▲ Mention Item NED-3506 when writing ▲

MAGNETIC PULLEYS

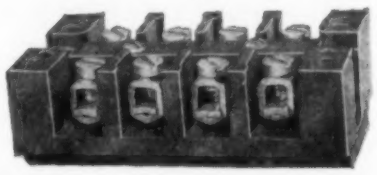


For separating tramp ferrous metals from products of such industries as coal, quarry, textile, food, foundry, chemical and others making products requiring extraction during or before processing, non-electric permanent magnetic pulleys can be used as either head end or as idler pulleys in belt conveyor systems. Pulleys are crowned to prevent belt weaving and runout and to assist in equalizing conveyed material as it passes over pulley. Standard or special length shafts can be obtained to fit new or existing applications without changing bearings or shaft mountings. Pulleys are furnished in 57 standard sizes in diameters of 12, 15, 18, 20, 24 and 30 inches and for belt widths ranging from 4 to 60 inches. Made by **Homer Mfg. Co.**, Dept. 124, Lima, O.

▲ Mention Item NED-3507 when writing ▲

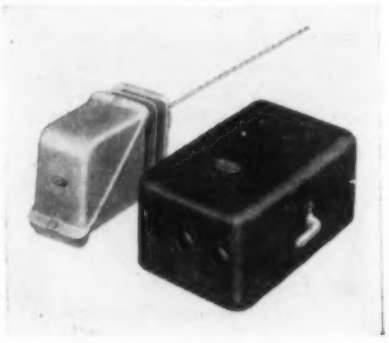
MOLDED TERMINAL BLOCKS

Rated at 35 amperes 600 volts, Bepco solderless type molded terminal blocks eliminate need for wrapping wires around studs or applying terminals to wire ends. Blocks are provided with compression type solderless connectors, each capable of receiving wires from No. 16 to No. 6 American Wire Gage. Attachment of wires to block is accomplished by tightening screws after insertion of stripped wires. Terminal blocks are available in 4, 8 and 12-circuit sizes and can be provided with screw-on covers. Made by **Buchanan Electrical Products Corp.**, 1292 Central Ave., Hillside, N. J.



▲ Mention Item NED-3508 when writing ▲

COMBUSTION SAFEGUARD



Combination of type 45JQ1 electronic flame rod and type 24QJ5 control provides effective flame failure safeguard for industrial gas oven, kiln and boiler installations. When flame fails, flame rod, which responds to flame itself and not to secondary effect, signals this condition to control which instantly cuts off fuel and sounds alarm.

Flame rod is mounted near gas pilot on burner plate and projects into fire chamber. It is so located that tip of rod impinges on pilot or main gas flame. Rod is wired to control which can be located at any convenient point, such as on burner panel board. Unit operates on 115 or 230-volt, 50/60-cycle power supply. Made by **Combustion Control Corp.**, 78 Broadway, Cambridge 42, Mass.

▲ Mention Item NED-3509 when writing ▲

Portable Cord and Cable Grips

Cord and cable grips for portable wiring offer a complete line of substantially built fittings for heavy duty service. The standard types shown have aluminum body, aluminum compression nut, and single hole rubber grommet. Two and three hole grommets can also be furnished.

Angle types are available; also female bodies with or without chase nipples; also with serrated body for mounting in sheet metal panels or cabinets.

Compression nuts with split clamp, with hose attachment, with extended handle, or with cord protecting spring are available. Couplings for flexible conduit can be supplied.

Consult your Pylet Catalog 1100 for complete listings.

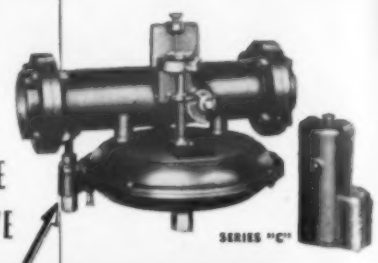
SINCE 1897

THE PYLE-NATIONAL COMPANY
1342 North Kostner Avenue • Chicago 51, Illinois

▲ Mention Item NED-3510 when writing ▲

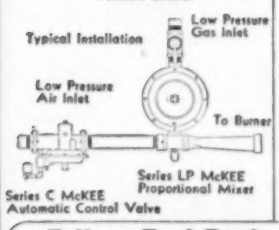
ONLY McKEE HAS THIS SIMPLE VARIABLE CONTROL

THE NEW McKEE AUTOMATIC TEMPERATURE CONTROL VALVE



FOR ALL TYPES OF AIR-CONTROLLED COMBUSTION SYSTEMS

Variable Control



New in design...flange-mounted... compact...pilot-actuated...lighter in weight..pressure range 2 oz. to 4 lbs.

Among the many distinct advantages of the new McKee Temperature Control Valve is its flexible operation. Simple adjustment of set screw (see sectional drawing) regulates the speed of opening and closing. This provides a constant, efficient flow of air through the valve to supply your exact combustion requirement. • Flange-mounted...compact... 50% lighter in weight than previous types ... this new valve is easily removed and replaced in the line. Pilot actuation provides trouble-free service. • Call on us for full details. Representatives in all principal cities.

Eclipse Fuel Engineering Company
ROCKFORD ILLINOIS
McKee Eclipse

▲ Mention Item NED-3511 when writing ▲

M&M Giant Keyseaters

SEE OUR INSERT AND LISTING IN THOMAS' REGISTER

STROKE CUT UP TO 60"

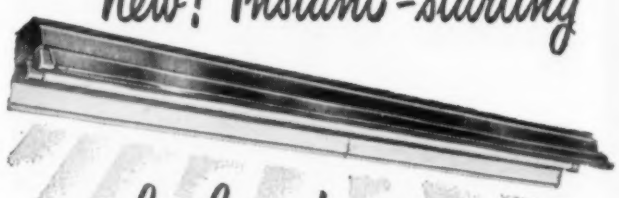
CAPACITY 0" TO 4"

M & M Giant Keyseaters speedily and accurately cut keyways or grooves of any shape in the bores of pulleys, gears, flywheels, and other machine parts. Simple design, with grooved post for work locator and tool guide, permits machining of pieces of practically unlimited diameter. Cutter stroke, tool relief and feed automatically controlled and operated. Write for complete particulars.

MITTS & MERRILL • SAGINAW, MICHIGAN

▲ Mention Item NED-3512 when writing ▲

New! Instant-starting



slimline fixtures

Get the extra advantages of Wheeler "Skilled Lighting"... extra-stable reflecting characteristics, extra-long service life, extra-low maintenance costs . . . when you invest in Wheeler Slimline fixtures. These are the results of nearly 70 years experience in the manufacture of quality lighting equipment.

Typical of Wheeler thoroughness in design are the two types of Slimline fixtures and the exclusive center support to prevent lamp vibration. Be sure to check all the extra advantages of the Wheeler *Slimline* fixtures. Write for complete details. **Wheeler Reflector Company, 275 Congress St., Boston 10, Mass.**

TWO TYPES

Industrial Unit — *End view shows flat top. These units are designed for general industrial use under normal atmospheric conditions.*

Textile Unit—*End view shows peaked top especially designed to eliminate frequent cleanings and danger of moisture accumulation.*

Distributed Exclusively Through Electrical Wholesalers

Wheeler REFLECTOR COMPANY
Lighting Equipment Specialists Since 1881

▲ Mention Item NED-3513 when writing ▲

Nugent Shaft Oiler

PUTS A STOP
to the danger and extra work of shaft oiling

With a Nugent shaft oiler, you'll be able to oil overhead bearings without the dangerous and useless work of climbing a ladder among belts and pulleys. One of these oilers will pay for itself in a week's time.

The Nugent shaft oiler is a two quart oil can with a 1/8" I.P.S. aluminum tube spout as long as 12 feet. The spout can be bent to any desired angle.

Check your phone directory or write direct.

NUGENT TRADE MARK Est. 1897

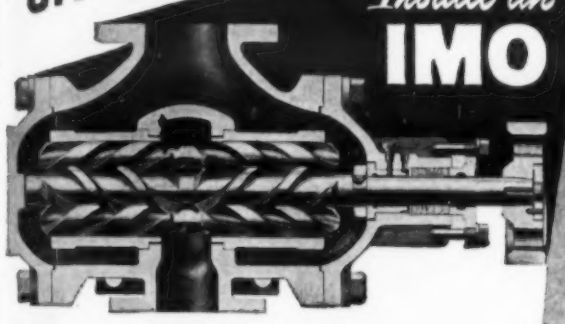
Wm. W. Nugent & Co., Inc.
421 N. Hermitage Ave. CHICAGO, 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

▲ Mention Item NED-3514 when writing ▲

PUMP SPACE LIMITED?

Install an **IMO**



- The capacity of the IMO is increased by high speed operation. This compact pump can be directly connected to the driving machine without bulky speed reduction gearing.
- IMO Pumps can be furnished for practically any capacity and pressure required for oil, hydraulic-control fluids and other liquids.

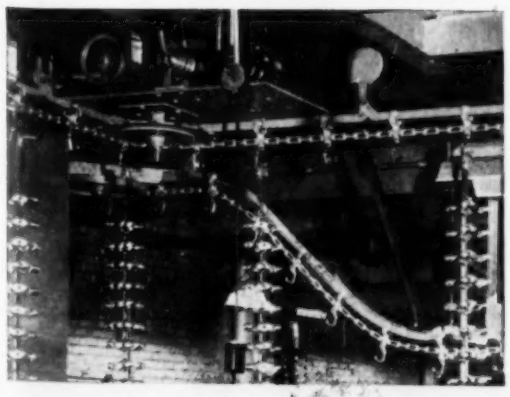
Send for Bulletin I-146 W

IMO means I MOVE OIL

IMO PUMP DIVISION of the
DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

▲ Mention Item NED-3515 when writing ▲

KEYSTONE JUNIOR CONVEYORS
CUT COSTS . . . INCREASE PRODUCTION



Discard labor consuming and costly handling. Move your materials on a Keystone Jr. Conveyor and you take a big step in cutting costs by speeding up your handling. Make it a pay load by saving labor, time and space, and accurately controlling your production. One concern reported a 400% increase in production, without increasing manpower, by using a Keystone Jr. Conveyor.

In the Keystone Jr. Conveyor the trolleys are suspended on an overhead track. The rivetless chain serves the dual purpose of driving and spacing the trolleys on various centers in multiples of 4". There is a variety of trolleys to meet your particular requirements. Keystone Jr. Conveyors have the desirable qualities of simplicity, durability and dependability. Recognition of these qualities has brought about its use in many industries and some of the worlds largest plants.

Write for Bulletin No. 449

KEYSTONE CONVEYOR CO.
21750 West Eight Mile Rd. Detroit 19, Michigan

▲ Mention Item NED-3516 when writing ▲

SOLID CARBIDE CUTTERS

Since cutting heads and shanks are constructed of single piece of carbide, Carbo-Mills cutting tools are particularly suitable for production deburring and machining of parts made from materials that are abrasive, tough or have hardness ranging up to 60 Rockwell C. They are useful also for production of dies, molds and metal patterns. Solid carbide construction facilitates balance at high speeds so that delicate precise work in exacting operations and on intricate patterns is possible. Twelve different shapes having 1/8-inch diameter shanks are available at lower cost than similar mills of two-piece construction. Made by **Severance Tool Industries Inc.**, 761 Iowa St., Saginaw, Mich.

▲ Mention Item NED-3517 when writing ▲

HOSE VIBRATION ELIMINATOR

Incorporating new construction features, improved Techniflex vibration eliminator has greater strength and durability and is lighter in weight than former models. Employment of mechanically swedged ring to hold braid to flexible metal hose has eliminated previously used brazing process which resulted in annealing braid and subsequent reduction of its tensile strength. Failure of corrugations at ends of metal hose through cracking has been virtually eliminated by fusing nipple to hose with silver solder. This permits pieces to be fused at lower temperatures than those required for brazing and also allows concentration of heat only where required. Made by **Techniflex Corp.**, Dept. NED, Port Jervis, N. Y.

▲ Mention Item NED-3518 when writing ▲

COATING GAGE

Thickness of nonmagnetic coatings on iron or steel is measured quickly without damage to coating by means of Coatingage instrument. Thickness is indicated directly on two concentric scales which cover range of 0.0001 to 0.5-inch. Typical uses include measurement of thickness of paints, enamels, metal plating, protective coatings, scale or coke deposits.

Instrument head contains coil connected to bridge circuit. Coating thickness is measured by effect of changes in reluctance of magnetic circuit. Bridge is balanced for zero thickness, and increase in gap between coil and base metal unbalances bridge and causes current to flow through indicating microammeter. Instrument is housed in compact carrying case and includes two 67½-volt batteries and one 1½-volt battery. Made by **Branson Instruments, Inc.**, Dept. A, 436 Fairfield Ave., Stamford, Conn.

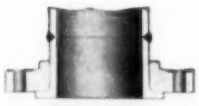
▲ Mention Item NED-3519 when writing ▲

CRANE Welding Fittings for every piping system

Butt-Welding Return Bend

STEEL BUTT-WELDING FITTINGS
for use with standard or extra strong pipe. Combine uniform strength, maximum serviceability and ease of installation. In all patterns and sizes up to 24-in. O.D.

FORGED STEEL WELDING FLANGES
in classes for all working pressures and temperatures. Available in screwed, welding-neck and slip-on types. Also, all-purpose Cranelap swivel flange with welding nipple for easier-to-make-up joints. Full range of sizes. Various facings to provide for every requirement.



Cross-section, Cranelap swivel flange

Socket-welding elbow

FORGED STEEL SOCKET-WELDING FITTINGS
in standard and extra strong weights. Especially designed for lines up to 2-in. Extra deep socket makes self-aligning joint. Weld metal, deposited on outer surface of pipe, eliminates danger of "icicles" forming inside. Forged of high grade carbon steel.

WRITE FOR DESCRIPTIVE FOLDER AD-1623.
CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▲ Mention Item NED-3520 when writing ▲

New . . . **a cost-saving**

EXCHANGE PLAN

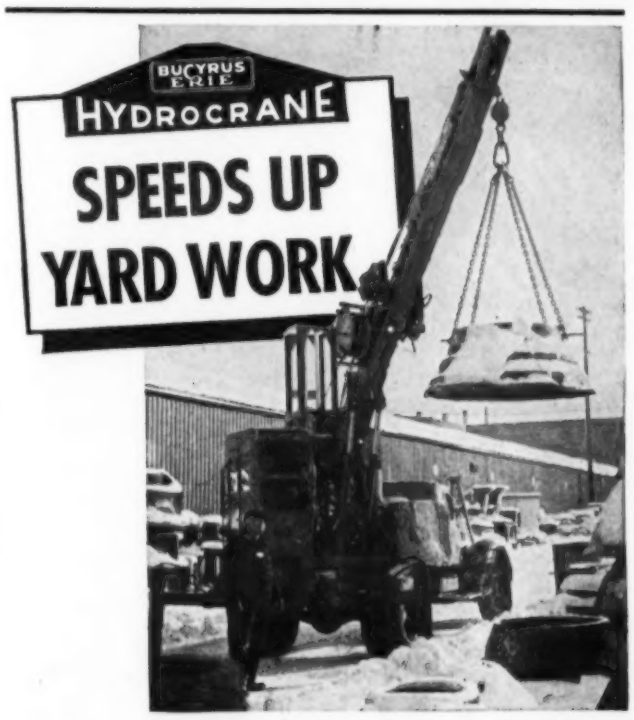
for TRI/CLAD Integral-hp Motors

General Electric is happy to announce that the motor exchange plan which proved so successful with fractional-hp motors has been extended to cover most popular types of Tri-Clad dripproof motors—one to five hp. How the plan works to reduce machine down time and motor replacement costs is told in Bulletin GEA-5189 (for motor users) and Bulletin GEA-5180 (for machinery manufacturers). SEND FOR YOUR FREE COPY to *Apparatus Department, General Electric Co., Schenectady 5, N. Y.*

756-21

GENERAL ELECTRIC

▲ Mention Item NED-3521 when writing ▲



Boosts Flow of Materials in Yard of Large Equipment Manufacturer

Here's a low-cost answer to many material handling problems — the completely hydraulic Bucyrus-Erie Hydrocrane.

After trying a Hydrocrane on a rental basis, Allis-Chalmers Manufacturing Company of Milwaukee found so many uses for it that they bought an H-3 of their own. They now use their truck-mounted Hydrocrane to handle shafts, pinions, castings and many other items stocked outside.

The Hydrocrane travels at truck speeds . . . gets around the yard fast . . . can do a dozen different jobs in one day. Its hydraulically controlled telescoping boom can reach over stock piles and fences, inside buildings and box cars. The crane's size allows it to work inside under low ceilings. Every Hydrocrane function is completely hydraulic—boom hoist, load hoist, telescoping boom, swing, outrigger set and retract.

For inside and outside work, for maintenance and production jobs, the versatile Hydrocrane will pay off in lower operational costs. Use it as a crane or with a magnet, clamshell, special snow bucket or grapple. Two sizes — 2-ton 1/4 yd. and 3-ton 3/8 yd. Before you buy any crane, investigate the Hydrocrane.

BUCYRUS-ERIE HYDROCRANE DIVISION
SOUTH MILWAUKEE, WISCONSIN

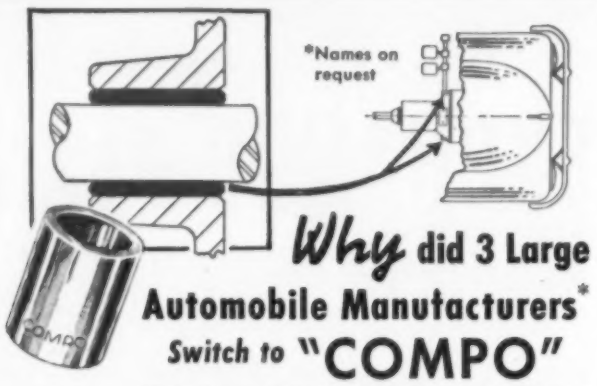
MAIL THIS COUPON TODAY TO

BUCYRUS-ERIE HYDROCRANE DIVISION
South Milwaukee, Wisconsin
I want the full story on the Hydrocrane

Name.....
Company.....
Address.....
City..... State.....

36H49

▲ Mention Item NED-3522 when writing ▲



Why did 3 Large Automobile Manufacturers* Switch to "COMPO" FOR CLUTCH RELEASE SHAFT BEARINGS?

They found "COMPO":

1. *Saved the cost of two grease fittings, the time for drilling and tapping, and eliminated the need for frequent lubrication.*
2. *Simplified design problem, speeded assembly and resulted in trouble-free operation and minimum maintenance.*

Made from pure metal powders, "COMPO" Bearings are die-formed to shape, alloyed at high temperatures, finished to exact dimensions, and vacuum-impregnated with lubricant.

Thousands of sizes can be made from existing dies; hundreds of sizes in stock for prompt shipment.

Send for our "COMPO" Bearing Stock List.

"COMPO" OIL-RETAINING POROUS BRONZE BEARINGS

BOUND BROOK OIL-LESS BEARING COMPANY

BOUND BROOK, N. J. • ESTABLISHED 1883

BEARINGS • BUSHINGS • WASHERS • PARTS

▲ Mention Item NED-3525 when writing ▲

IMMEDIATE DELIVERY

STEEL LOCKERS by MEDART

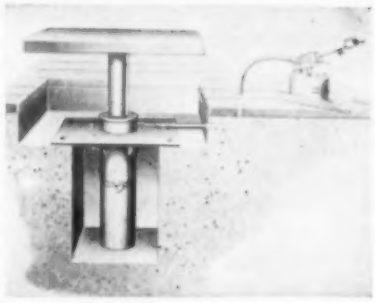
Medart *all-steel* Lockers are now available for *immediate delivery* . . . In sizes and types to fit every industrial need . . . Medart has been supplying lockers to industry for more than a quarter of a century . . . Remember! There are other lockers that have some features that were originally developed by Medart . . . only MEDART LOCKERS have all those features which have earned for Medart the slogan "The Standard of Comparison."

Write for Descriptive Literature and Prices.

FRED MEDART PRODUCTS, INC.
3539 DEKALB STREET
ST. LOUIS 18, MISSOURI

▲ Mention Item NED-3526 when writing ▲

HYDRAULIC LIFT PLATFORM



Furnished with a 30-inch square top which rises from floor level to 24 inches, this flush-with-floor type hydraulic elevating platform is designed as packaged unit for ease of installation. Single speed hydraulic foot pump will raise 2000 pound load. Elevation up to 36 inches, platforms up to 36 inches square, and either two-speed foot pump or ¾-horsepower motor driven pump are optional. Made by **LYON-Raymond Corp.,** 1694 Madison St., Greene, N. Y.

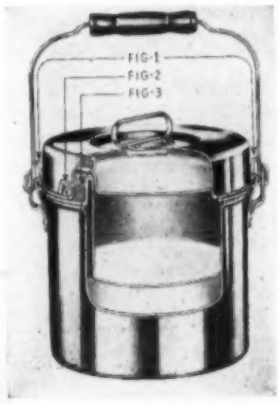
▲ Mention Item NED-3527 when writing ▲

REFRACTOMETER

Developed for testing and controlling quality of chemicals, foods and oils, this refractometer is portable, electrically illuminated instrument which affords accurate refractive index readings in minimum of time. Detachable prism system can be removed by user and replaced quickly with duplicate set in event servicing is required. Features are built-in corrosion-free glass scale, dustproof housing and illumination system, and stationary eyepieces. Made by **Bausch & Lomb Optical Co.,** 727 St. Paul St., Rochester 2, N. Y.

▲ Mention Item NED-3528 when writing ▲

DINNER PAIL



Suggestions of workmen in all types of industries were solicited to obtain most practical design in this dinner bucket. Some of the improvements incorporated in this heavy gage aluminum, rust-proof, round dinner pail are tight food and water compartments; roll rim edges; overlapping collars; and simple bayonet and spring type locks to seal out dirt, dust and moisture. Assembled and with handle raised, all components are held together by spring locks (Fig. 1). Handle is held firmly upright to prevent swing when carried. Bayonet lock on cover (Fig. 2) permits lifting food compartments out as a unit. Large inset pan will accommodate 2 quarts of food and has overlapping collar (Fig. 3). Dessert and utensil tray nests on top. Outside pan holds 3 quarts of liquid. Made by **Republic Stamping & Enameling Co.,** 1200 Bedford Ave., Canton, O.

▲ Mention Item NED-3529 when writing ▲

Removable Starter-Strip releases end of Labels for you to peel!

Brady QUIK-LABELS mark your wires faster!

QUIK-LABELS code wires, leads, circuits, relays, parts, etc. faster and at lowest buy-and-apply cost. • Pre-cut to exact size, QUIK-LABELS come on handy cards, stick without moistening. • Replace slow and costly string tags, roll tapes, decals, metal tags, etc. • Silicone plastic coated to resist dirt, grease, moisture and abrasion. • Exclusive Starter-Strip automatically releases any or all labels; it is faster, safer, snag-proof. • Over 1000 NEMA and ASA markings and colors in stock. • Maintenance men carry cards to the job. • QUIK-LABEL Dispenser holds cards for production operators and leaves both hands free for faster work. • QUIK-LABELS are sold by distributors in over 125 principal cities of U. S. A. and Canada. *Write for Useful Literature and FREE Sample Cards.*

W. H. BRADY COMPANY
Identification Specialists
Established 1914
238 W. Wells St., Milwaukee 3, Wis.

▲ Mention Item NED-3530 when writing ▲

Get PUSH! with a tool that's got PUSH! the "YANKEE" 130A

You get real *push* on an assembly job with a "Yankee" 130A. The spiral does the hard work. Quick-return spring in the handle keeps the bit in screw slot and brings back handle automatically for the next push. Makes an easy one-hand job of driving and drawing screws in hard-to-reach positions . . . overhead or down below or in other awkward spots. It is a sturdy, long-lived tool. No. 130A is standard size with famous quick-return spring. Two other sizes: No. 135 for lighter work, and No. 131A for heavier jobs.

"Yankee" Bit with Centering Sleeve increases speed of the 130A

This spring-mounted bit automatically finds the slot and stays there. No slipping, burring or gouging. Two sizes ⅛" and 3/16" wide at tip.

Write for the "Yankee" Tool Book

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

YANKEE TOOLS NOW PART OF STANLEY THE TOOL BOX OF THE WORLD

▲ Mention Item NED-3531 when writing ▲

First find out all the DOWN TIME

Make every machine now work harder and produce more How? Well, the first step is to find out if any precious time is now being wasted by machines *standing idle* at odd moments. And the way to do *that* is to clamp a little SERVIS RECORDER on each one of your machines. Then you'll get the whole story—see chart above. Write for our folder—"A Busy Plant." The Service Recorder Co., 1375 Euclid Ave., Cleveland, 15, Ohio.

The Servis Recorder
SHOWS UP ALL IDLE TIME!

▲ Mention Item NED-3532 when writing ▲

EC&M VALIMITOR (Volt-Ampere-Limitor) Motor Starters

1. Eliminate calculation of available KVA.
2. Prevent future revisions as KVA grows.
3. Reduce effect of "short" clear back to the power source.
4. Give permanent protection—no future changes, nothing to replace after a fault.
5. Permit standardized starters suited for circuit of *any* power capability.

Write for No. 23 ACCELERATOR Issue on these Starters

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79th STREET • CLEVELAND 4, OHIO

▲ Mention Item NED-3533 when writing ▲

TEMPERATURES STEADFAST for WORK CHAMBER ACCURACY

HUPPERT KH 1200 LABORATORY OVEN

For Greater Accuracy in General Chemical and Analytical Work

- Adjustable Double Venting System—Controls Temperatures to C. in Oven Range to 392° F./200° C.
- Thermo-Block Insulation 1⅝" thick
- Stainless Steel Work Chamber 12" x 10" x 10"
- O.D. 15⅜" x 21¼" x 15". Green Enamel Finish.

Complete with Thermostatic Control $75.00

With Thermometer $79.00

Write for literature TODAY

For all stainless steel construction add $17.50

K. H. HUPPERT CO.

6838 Cottage Grove Avenue Chicago 37, Illinois

▲ Mention Item NED-3534 when writing ▲

HOSE FOR USE IN ANY INDUSTRY!

Light, Strong, Flexible

FLEXAUST

SPIRAL-REINFORCED HOSE

Flexaust is suitable for a wide variety of suction and pressure uses in ventilation, dust collection and fume control. SIZES 1¼ inches to 24 inches. Write for full information on this all-purpose hose. Various Flexaust types, accessories, and other hose types also available:

BLOFLEX
Non-reinforced collapsible

PORTOVENT
Ring-reinforced retractable

AMERICAN VENTILATING HOSE COMPANY

Dept. N-5, 15 Park Row, New York 7, N. Y.
Branch Offices:
New Orleans, La., San Francisco, Calif., Washington, D. C.
Plants: Amesbury, Mass.

▲ Mention Item NED-3535 when writing ▲

ONE MAN . . .
ONE HAND . . .
ONE HUNDRED THOUSAND LBS!

That's the story of Hein-Werner Hydraulic Jacks in your plant. One man can lift 50 tons as a one hand operation with a powerful, easy-operating H-W Hydraulic Jack.

Yes, 50 tons of pressure can be *easily harnessed* to pushing, pressing, bending operations, or hundreds of other industrial applications. Hein-Werner Jacks feature the exclusive Heinite Piston, proven to withstand ten times the wear of ordinary cups or packings. Every H-W Jack is factory-tested at 1½ times its rated capacity.

Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity. See your industrial supply distributor or write us for details.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORP.
Waukesha, Wis.

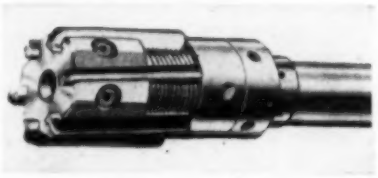
▲ Mention Item NED-3536 when writing ▲

CONTACT-MAKING METER

Consisting of standard indicating type meter with adjustable contacts, Micro-Contact meter relays afford positive contact on changes of current or voltage as little as ½-microampere or fraction of a millivolt. Contact point is adjustable over entire scale arc. One platinum contact is carried on pivoted moving element and is connected in series with extra winding on moving element. Other contact is mounted on hand-set red pointer. Once closed, contacts remain so until holding coil current is interrupted either manually or automatically. Meters are usable in automatic temperature controls, gaging and sorting machines, speed control and limiting devices, and underload and overload devices. Meters are available in all usual ranges of volts, amperes, millivolts, microamperes, etc., as well as arbitrary values of temperature, thickness, speed or other units. Made by **Assembly Products, Inc.**, 1002 Bell St., Chagrin Falls, O.

▲ Mention Item NED-3537 when writing ▲

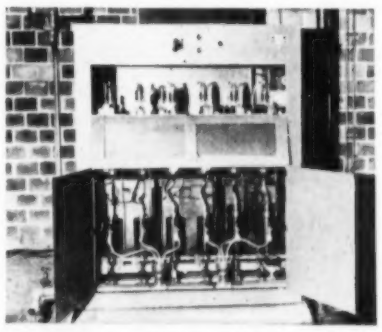
CARBIDE TIPPED REAMER



Available in sizes from ⅝ to 4 inches with straight or taper shank or in shell type, adjustable reamer has replaceable carbide tipped cutting blades. One piece of carbide heavily backed with high speed steel runs full length of blade, and cutting edges are diamond lapped. Threads are precision ground to allow close blade adjustment, and safety locknut permits easy replacement and positive locking of inserted blade. Made by **Wendt-Sonis Co.**, 1000 Collier St., Hannibal, Mo.

▲ Mention Item NED-3538 when writing ▲

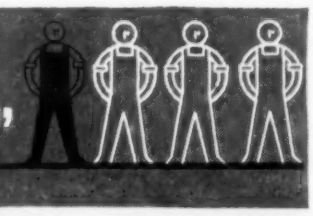
SPEED CONTROL UNIT



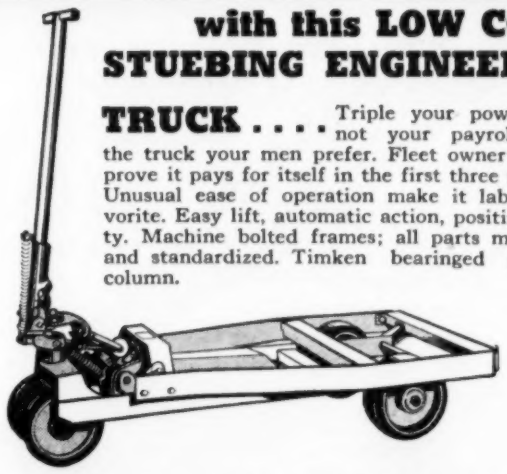
For use with lathes, milling machines, cranes, conveyors and other types of power-driven machinery, Varitronic electronic automatic speed control makes possible flexible remote pushbutton control, dynamic braking, automatic reversing, inching, jogging, controlled acceleration or deceleration and control of input torque or horsepower. Essentially, it is simplified system for utilizing flexible performance characteristics of direct current motors but is operated from alternating current source. Device embraces either constant torque or constant horsepower principle, and control can be held within limits as close as 2 per cent of basic speed. Distributed by **Industrial Associates**, 8845 W. Olympic Blvd., Beverly Hills, Calif.

▲ Mention Item NED-3539 when writing ▲

triple your "men-power"



with this LOW COST STUEBING ENGINEERED TRUCK . . . . Triple your power—but not your payroll—with the truck your men prefer. Fleet owner studies prove it pays for itself in the first three months. Unusual ease of operation make it labor's favorite. Easy lift, automatic action, positive safety. Machine bolted frames; all parts machined and standardized. Timken bearinged steering column.



For full details on the Red Arrow (single-stroke) or the Hydromatic (multi-stroke) send for Bulletin "G".

LIFT TRUCKS, INC.
Walter Stuebing, President
2425 Spring Grove Ave. Cincinnati 14, Ohio

▲ Mention Item NED-3540 when writing ▲

THIS SAFE LUBRICANT PREVENTS SCORING

use CMD Anti-Scoring LUBRICANT

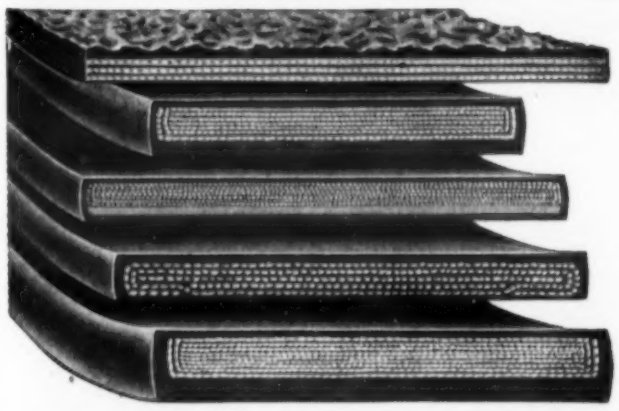
Whether you use it on a center or a tool post screw, you will be convinced CMD Anti-Scoring Lubricant is a *safe, sure, economical* lubricant to use. It withstands pressures of more than 50,000 pounds per square inch and prevents any metal to metal contact.

MAIL COUPON FOR FREE SAMPLE

CHICAGO MANUFACTURING & DISTRIBUTING CO.
Dept. 5 NED, 1928 West 46th St., Chicago 9, Ill.
Please send free sample kit of one tube each of CMD Center Point Lube, and CMD Center Point Oil, and catalog of CMD Helical Groove Centers.

NAME.....
FIRM NAME.....
ADDRESS.....
CITY.....ZONE.....STATE.....

▲ Mention Item NED-3541 when writing ▲



Get the RIGHT belting for YOUR service!

You can fit your needs exactly with Hewitt Conveyor Belting!
The Hewitt line is *complete*. It offers you many different sizes and types of belting specially designed for carrying various materials and tonnages.
And Hewitt Conveyor Belting is built to high standards developed in nearly a century of industrial rubber experience. *For complete information,* write today.

HEWITT CONVEYOR BELTING

Hewitt Rubber Division
240 Kensington Avenue, Buffalo 5, New York
HEWITT-ROBINS INCORPORATED

▲ Mention Item NED-3542 when writing ▲

Cut Air-Hose Costs — Prevent Accidents
Speed-up Production — Save Time . . .

with CHAMPION AIR-HOSE REELS
FOR CEILINGS—WALLS AND FLOORS

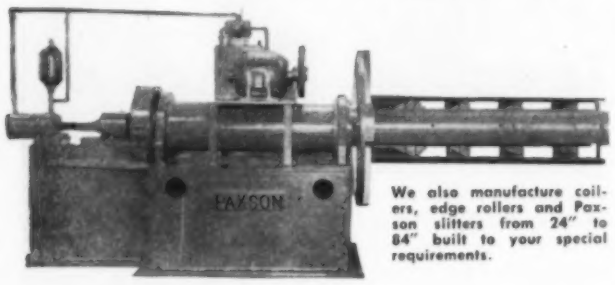
Champion Air-Hose Reels more than pay for themselves in the hose they SAVE. Champion Reels keep hose *off-the-floor*, eliminate the danger of tripping. Air-hose is always convenient to operator . . . a time saver that speeds-up production. Stays put at desired length—a slight pull rewinds hose at governed speed. Fully enclosed reel housing with swivel or stationary mounting. Furnished with 30 or 35 foot hose. Write TODAY for complete data sheet.

CHAMPION PNEUMATIC MACHINERY CO.
8180 SOUTH CHICAGO AVENUE • CHICAGO 17, ILLINOIS

▲ Mention Item NED-3543 when writing ▲

PAXSON PAY-OFF REEL

60 Inch...Hydraulic Operation



We also manufacture coilers, edge rollers and Paxson slitters from 24" to 84" built to your special requirements.

This pay-off reel can be supplied in any size to accommodate coils from 18" to 60" widths and weights up to 30,000 pounds. For slitter lines, cut-off lines and for large press stock feed. Adjustable tension brake and hydraulic operation of collapsing and expansion mechanism contribute to simplicity of operation. Coil weight is carried on Timken bearings.

Write for complete information on any of this equipment.

PAXSON MACHINE CO.
SALEM, OHIO

Mention Item NED-3544 when writing

INDUSTRIAL LADDERS

"test-built" for enduring service

Your plant can benefit now by the unusual lightness of magnesium in ladders which are designed for heavy, all-round industrial use. Our new magnesium ladders are "test-built"—engineered and constructed *for the job*—out of new high-performance magnesium alloy. Oversize extruded parts give unequalled rigidity without sacrificing light weight.

For greater plant safety and efficiency, remember to specify these strong, light "test-built" magnesium ladders. Ease of handling and safety in use will repay their cost many times before their long service is ended. Write for complete information on ladders of all types to meet your requirements.

TYPE 400—One of the new "test-built" series of magnesium ladders, our Type 400 Platform Step Ladder is built in seven sizes ranging from four to twelve feet in height. Platform measures 14 x 17 inches; corrugated steps prevent slipping.

PIONEER BUILDERS OF ALUMINUM AND MAGNESIUM LADDERS FOR ALL INDUSTRIAL PURPOSES

Aluminum Ladder Company
346 CARBIS STREET
WORTHINGTON, PA.

Mention Item NED-3545 when writing

Tempilstiks°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

It's this simple: SELECT the Tempilstik° for the working temperature you want. MARK your workpiece with it. WHEN the Tempilstik° mark melts, the specified temperature has been reached.

available in these temperatures (°F)
125°, 138°, 150°, 168°, 175°, and so on to 400°F
400°, 450°, 500°, 550°, 600°, and so on to 1600°F

gives up to 2000 readings

$2 each

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy"—16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

Also available in pellet or liquid form

Mention Item NED-3546 when writing

HOT VAPOR DEGREASERS

For use where grease and oil removal from metal are essential to either production or maintenance, these hot vapor stainless steel degreasers with automatic controls clean and dry any metal before and after intermediate processing. Solvent is heated to create clean hot vapor which penetrates greases and oils to bare metal surfaces of parts where it condenses on colder metal and continues to wash away soil until parts have been completely degreased.

Degreasers are available in number of standard sizes to meet various operating requirements. Smallest unit is electrically operated, automatically controlled Cub which requires 18 x 23 inches of floor space and stands 42½ inches high. Circo-Solv solvent used in this unit degreases all metals and will not burn or explode. Made by **Circo Products Co.**, 12117 Berea Rd., Cleveland 11, O.

Mention Item NED-3547 when writing

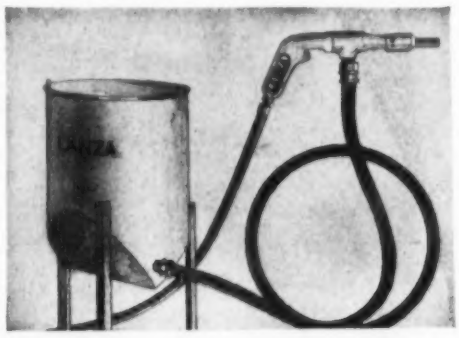
FLOOR SAFETY ABSORBENT

Safe footing on industrial floors is assured by use of improved Sol-Speedi-Dri granular liquid absorbent which is scattered over oily, greasy or wet spots. Because it is fluffier and has 10 per cent greater bulk than original material, it soaks up and holds maximum amount of liquid. It assures clean, dry underfoot surface for workmen in industrial, processing and other plants. In addition to above application, compound can be used to salvage tools and reclaim oil or moisture-soaked shoes, clothing and belting. Made by **Safety & Maintenance Co.**, 1 Wall St., New York 5, N. Y.

Mention Item NED-3548 when writing

SANDBLASTING UNIT

Improved by incorporation of perforated metal hood in hopper to support sand and to prevent clogging of sand pipe line, sandblasting unit eliminates intermittent feed-



ing to sand gun. When suction is applied, perforated hood acts as regulator to assure proper flow of sand to maintain continuous blast at nozzle. Since cleaning capacities of guns vary up to 100 square feet per hour, hood perforation sizes vary also to assure proper flow. Made by **Lanza Sandblasting Gun Mfg. Co.**, Dept. NED-1, 600 Sixteenth St., Oakland 12, Calif.

Mention Item NED-3549 when writing

NEW! CLECO A-1 PNEUMATIC REVERSIBLE SCREWDRIVER

. . . the smallest power tool ever built to drive No. 8 machine screws or equivalent.

Only 5 7/16 inches long and weighing only 9½ ounces, the Cleco A-1 Screwdriver is reversible and features an impact mechanism that gives a fast, powerful driving force *without torque reaction.*

CLECO AIR TOOLS

WRITE FOR FULL DETAILS

Manufacturers of: GRINDERS, SANDERS, ROTARY DRILLS, SAND RAMMERS, RIVETERS, CHIPPERS, SCALING TOOLS, IMPACT WRENCHES, SCREWDRIVERS, HOSE FITTINGS, SUMP PUMPS

CLECO DIVISION
of the REED ROLLER BIT COMPANY
P. O. Box 2119, Houston, Texas U. S. A.

Mention Item NED-3550 when writing

TRACING CLOTH THAT DEFIES TIME

● The renown of Imperial as the finest in Tracing Cloth goes back well over half a century. Draftsmen all over the world prefer it for the uniformity of its high transparency and ink-taking surface and the superb quality of its cloth foundation.

Imperial takes erasures readily, without damage. It gives sharp contrasting prints of even the finest lines. Drawings made on Imperial over fifty years ago are still as good as ever, neither brittle nor opaque.

If you like a duller surface, for clear, hard pencil lines, try Imperial Pencil Tracing Cloth. It is good for ink as well.

IMPERIAL TRACING CLOTH

SOLD BY LEADING STATIONERY AND DRAWING MATERIAL DEALERS EVERYWHERE

Mention Item NED-3551 when writing

Durable Accurate

FABRICATED WOVEN WIRE CLOTH PARTS

The manufacture of high quality fabricated woven wire parts is a Newark specialty. If you use screens, filters or strainers in your product, Newark offers the reliability of a "start to finish" responsibility. We manufacture the wire cloth thus assuring uniformity of the finished fabricated part.

The wire cloth is most important for proper screen sizing.

If you have any special problem with the design of the screen part our engineers will be glad to assist you.

NEWARK for ACCURACY

5-NWC-5

Newark Wire Cloth COMPANY
332 Verona Avenue · Newark 4, N.J.

Mention Item NED-3552 when writing

SLIPS DO COUNT. About 20% of all compensation claims result from accidents on slippery floors.

You can stop this cause of painful, costly injuries, of lost man-hours and lowered production by a simple and inexpensive application of Ferrox.

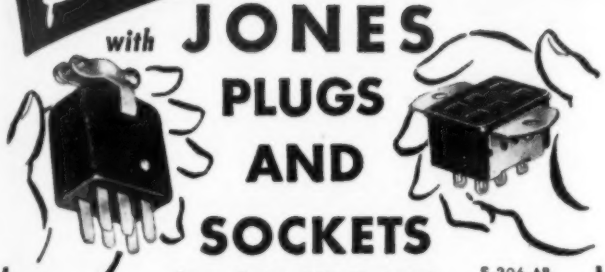
Simply trowel this plastic-abrasive composition on potential danger spots—ramps, walkways, platforms, washroom floors, wood, concrete or metal—and you have underfoot safety. Ferrox has proved the general purpose safety floor-maintenance material—safe indoors or outdoors—wet, dry or oily. One gallon covers 40 square feet.

Take a walk around your plant now and let your feet tell you where Ferrox can save you both time and money. Send your trial order today: $7.50 per gallon in 1-gallon cans; $7.25 per gallon in 5-gallon cans.

AMERICAN ABRASIVE METALS CO. 460 Coit Street Irvington 11, N. J.

▲ Mention Item NED-3553 when writing ▲

INSURE Proven Quality with JONES PLUGS AND SOCKETS



P-306-CCT Plug, Cable Clamp in Cap.

Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 17 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

HOWARD B. JONES DIVISION Cinch Mfg. Corp. 2460 W. GEORGE ST. CHICAGO 18, ILL.

▲ Mention Item NED-3554 when writing ▲

NATIONAL Sanders

THIS powerful vibrationless air sander operates at 4000 to 6000 r.p.m. — has an abrasive area of 25 sq. inches — and an orbital action, making a 3/16" circular pad stroke. The high speed Model 400 leaves a perfectly smooth surface, often times making filler coats unnecessary and so saving time and money. Write for details today on the versatile, handy National Model 400 Air Sander.

Powerful . . . Vibrationless . . . Light Weight

NATIONAL AIR SANDER, INC. ROCKFORD ILLINOIS

▲ Mention Item NED-3555 when writing ▲

DUMPING TRUCK

Hinged at bottom to permit lowering of side for dumping, Trash-Truk 3-ton capacity truck can aid in scrap disposal or in collection of other waste materials. It rolls on spring-mounted chassis, and running gear is 18 x 5-inch pressed-on rubber-tired wheels. Outside dimensions are 10 feet x 4 feet x 42 inches deep. Truck can be furnished in number of variations of chassis and running gear. Made by **Service Caster & Truck Corp.**, 578 N. Brownswood Ave., Albion, Mich.

▲ Mention Item NED-3556 when writing ▲

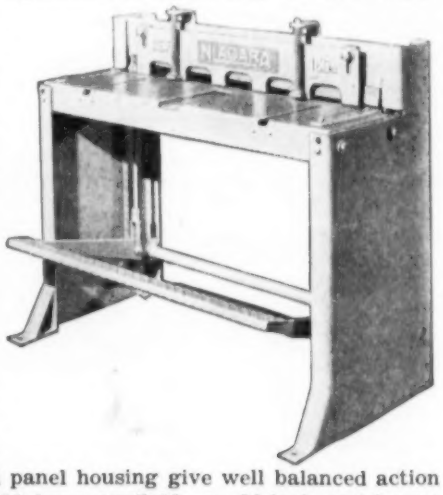
WINDOW AIR CONDITIONER

Featuring quiet operation and readily available thermostatic control, model G-5 Quiet Kool window air conditioner is rated at 5850 British thermal units per hour. Air is circulated by single fan motor. Cooling effect is obtained from ½-horsepower hermetic compressor unit. Filter can be changed easily, and air direction altered to suit need. Steel cabinet projects 9¾ inches into room. Made by **Quiet-Heet Mfg. Corp.**, Dept. A, 135 N. J. Railroad Ave., Newark 5, N. J.

▲ Mention Item NED-3557 when writing ▲

FOOT SQUARING SHEARS

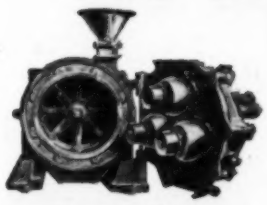
Available in 30, 36, 42 and 52-inch widths, all steel 16-gage capacity foot squaring shears combine strength and rigidity with lightness in weight, easy action and improved styling.



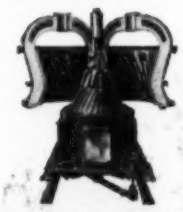
Bed which is rigid one-piece weldment and deep crosshead which is guided in flat long-wearing bronze ways give solid nondeflecting support to knives to produce accurate, clean and square cuts. Long crosshead counter-balance springs concealed behind panel housing give well balanced action to shear, and hold-down available on 36-inch and longer shears assures clear visibility of cutting line. Torsion resisting cross shaft imparts equal motion on each end of crosshead regardless of where operator applies pressure to full-length nonslip treadle. Made by **Niagara Machine & Tools Works**, 637-697 Northland Ave., Buffalo 11, N. Y.

▲ Mention Item NED-3558 when writing ▲

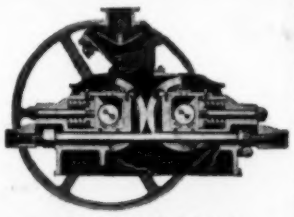
STURTEVANT EQUIPMENT INCREASES PRODUCTION AND CUTS COSTS



RING-ROLL MILLS for medium and fine reduction 10 to 200 mesh, hard or soft materials. Very durable, small power. Operate in closed circuit with Screen or Air Separator. Open door accessibility. Many sizes. No scrapers, plows, or pushers.



ROTARY FINE CRUSHERS for intermediate and fine reduction down to ¼". Open door accessibility. Soft or moderately hard materials. Efficient granulators. Excellent preliminary Crushers preceding Pulverizers.



CRUSHING ROLLS for granulation, coarse or fine, hard or soft materials. Automatic adjustments. Crushing shocks balanced. For dry or wet reduction. Sizes 8x5 to 38x20. The standard for abrasives.

MOTO-VIBRO SCREENS screen anything screenable. Classified vibrations. Unit construction — any capacity. Open door accessibility. Open and closed models with or without feeders. Many types and sizes — range of work ½ inch to 60 mesh.

Sturtevant Mill Company, 114 Clayton St., Boston 22, Mass.

▲ Mention Item NED-3559 when writing ▲

PRODUCTION GOES UP! COSTS GO DOWN!

***when you protect your workers with* OLYMPIC GLOVES**

This heavy but flexible gauntlet (#2122) is typical of the outstanding Olympic line. Best chrome split leather . . . full-leather thumb, strapped and welted . . . practically full-leather back . . . base of 2 middle fingers reinforced with leather welts . . . seamless index finger . . . large puller on cuff . . . Canton flannel lined.

Remember—Olympic has a glove to fit every job!

Send for Illustrated Catalog of Safety Work Gloves, Finger Protectors and Safety Apparel.

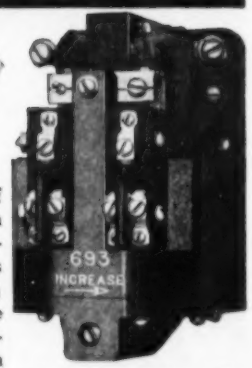
OLYMPIC GLOVE COMPANY INC. 95 MADISON AVE., DEPT. 10 NEW YORK 16, N. Y.

▲ Mention Item NED-3560 when writing ▲

2 New CUTLER-HAMMER Timers

- SMALL SIZE
- EASY TO ADJUST
- ACCURATE AND DEPENDABLE

Bulletin 10337 A. C. Pneumatic Timer



Designed for a broad variety of industrial control timing needs, such as machine tools, conveyors, automatic processing equipment, etc. Its extremely small size, 2¾ wide x 4⅞ high makes it desirable where space is at a premium. Its timing adjustment is especially simple, made with a screw driver from the front. 8 turns of the screw gives the entire timing range from 0.3 seconds to 3 minutes. Reset is practically instantaneous. Available either with one timing step or two timing steps, the two steps eliminate the need of one timing relay. The two steps of timing are independently adjustable over the entire range.

Bulletin 13522 General Purpose Electronic Timer

For use particularly where short or very accurate timing is required. The standard unit has a wide timing range, from 0.15 to 60 seconds. Shorter time settings or narrower ranges can readily be provided for special applications. Timing adjustment is easily made by turning knob of potentiometer rheostat which is equipped with a clearly graduated dial. The rheostat may be located inside the timer enclosure or at any convenient place on the machine remote from the timer. A heavy duty industrial type relay is used in the timing circuit. An outstanding feature is the extreme accuracy of the unit on repeat operations and under varying ambient temperature conditions.

For further information on Bulletin 10337 pneumatic timer, or Bulletin 13522 electronic timer, write CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CUTLER-HAMMER MOTOR CONTROL C-H

▲ Mention Item NED-3561 when writing ▲

YOU CAN BE SURE.. IF IT'S Westinghouse

BRAZE and SAVE...
with PHOS-COPPER

SAVE MATERIAL
SAVE TIME
SAVE MAN POWER
SAVE MONEY

SEND FOR THIS FREE BOOKLET

For full details — send for booklet, B-4198, Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pa.
J-21515

Westinghouse

▲ Mention Item NED-3563 when writing ▲

Where good weights go bad!

You take a chance as long as human eyes must read . . . human minds must remember . . . and human hands must write weight figures! Human errors at weighing points *directly affect your costs, profits and customer relations.* Stop these losses now with PRINTED weights—today's better way to weigh!

PRINTWEIGH
STOPS HUMAN ERRORS

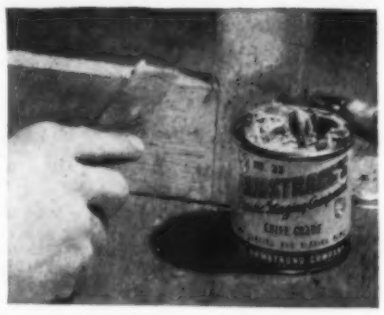
Toledo PRINTWEIGH Scales give you big, clear *printed* figures . . . *accurate printed records* of each weighing operation . . . positive assurance that your weight facts are right *every* time! Prints on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Split-second speed! Keeps weight records *right* in receiving, shipping, stock rooms, batching and many other weighing operations for industry. Write for bulletin 2021. Toledo Scale Company, Toledo 12, Ohio.

TOLEDO
HEADQUARTERS FOR SCALES

▲ Mention Item NED-3564 when writing ▲

NEW Processes AND Materials

GLAZING COMPOUND



Usable on both metal and wood sash for reglazing windows and doors of industrial and public buildings, "33" Elastic glazing compound will not dry out or harden in its container. It is permanently elastic and expands or contracts with temperature changes. Compound is available in 1, 2, 5 and 10-pound metal containers and in larger amounts in drums. Made by **Armstrong Co.**, 4045 S. La Salle St., Chicago 9, Ill.

▲ Mention Item NED-3565 when writing ▲

STAINLESS STEEL

Because of its high resistance to corrosive effects of sulphuric acid as well as to many other substances, Carpenter stainless steel No. 20 has numerous applications in manufacture of heavy chemicals, organic chemicals, synthetic rubber, high octane gasoline, solvents, explosives, plastics and pharmaceuticals. Typical uses include pump shafts and rods, valve parts, screens, pipe lines, heat exchangers, fume ducts and exhaust fans. Sheet is produced in standard widths and lengths in gages from 24 to 11, while plate is produced in thicknesses from 3/16-inch up. Made by **Carpenter Steel Co.**, Alloy Tube Div., Union, N. J.

▲ Mention Item NED-3566 when writing ▲

CONDENSATION PREVENTIVE

More pliable than formerly, improved NoDrip cork-filled tape (*See NED May '45*) is easier to apply to cold water pipes to prevent dripping. Straight pipe, valves, joints and tees can be covered easily in few minutes without use of tools, adhesives or brads. Pipes are wiped dry and then tape is wound spirally around them to form tight fitting sealed jacket that is effective immediately. Tape is brown but can be painted any color with cold water paint. Standard package containing enough tape to cover 10 feet of ½-inch pipe is priced at $1.69. Made by **J. W. Mortell Co.**, 526 Burch St., Kankakee, Ill.

▲ Mention Item NED-3567 when writing ▲

NEW MADISON Grinding Fixture
gives you precision tool grinding
at a NEW low price

Only $75.00 for this ruggedly built, soundly designed grinding fixture that handles tool grinding jobs with speed and precision. Now even the smallest shop can own one . . . and the large shops can have several and avoid any delay in tool sharpening. The low price has been made possible by eliminating expensive, rarely used adjustments, yet the scope of this fixture is limited only by ability of the toolman to work out a setup. Graduated in three planes. Offers 180° automatic indexing for Madison flatters . . . can be released for conventional handling of other tools.

WRITE FOR this NEW color bulletin which describes the Madison fixture in detail.

MADISON MANUFACTURING COMPANY
Dept. ED Muskegon, Michigan

▲ Mention Item NED-3568 when writing ▲

FLOOR SPACE REDUCED 50% IN ASSEMBLY PARTS STOREROOM

Replacing old storage with modern equipment, an Ohio corporation made important savings. Floor space was reduced from 1760 to 900 square feet; shelving height was reduced from 12 to 7 feet, without loss of storage capacity. Aisles were wider and better lighted. One man can now do the work instead of two.

Rotabins increase space utilization because every square foot of storage has aisle frontage when needed. Each tray rotates easily on ball-thrust bearings; will not sag or bind when fully or unequally loaded. These rotary units are flexible and may be combined with straight shelving as desired. A wide variety of tray and drawer arrangements are available to meet specific requirements.

Rotabins are made in many standard sizes to suit a wide variety of needs. Trays rotate around a heavy tubular steel stem secured to a solid circular metal base. Rotabins are durable, portable; require no bracing or fastening. Standard finish is olive green enamel, baked on.

Savings realized from the use of Rotabins can quickly pay for entire investment. Let F-G-M engineers help you plan most profitable layout. Write, phone or wire your requirements.

Send for illustrated Catalog No. 106-A

The FRICK-GALLAGHER MFG. CO.
Shelving—Parts Bins—Racks—Counters—Tables—Benches
408 Shubert Building Philadelphia 2, Pa.

▲ Mention Item NED-3569 when writing ▲

ARE YOU FED UP WITH wet-nursing WASTE PACKED JOURNALS?

Frequent "packin' and pokin'" of oiled waste in journal boxes on overhead cranes and trolleys, in your yard locomotives and cars, and on similar waste packed journals is expensive and unnecessary.

It's simple, quick and inexpensive to switch to "Stapax" positive spring supported felt lubricators that continuously feed clean, filtered oil to journal bearings without attention between oilings.

Stop wet nursing waste packed journals.

"Stapax" lubricator pads of felt and canvas, with in-built strap type springs to hold them up, eliminate costly "packin' and pokin'", last many times as long as waste, reduce accident hazards and prevent most bearing failures. They pay for themselves over and over.

Your newer equipment probably has "Stapax" lubricators as original equipment. Why not standardize? Survey older equipment today. "Stapax" lubricators are engineered to fit all types of journal boxes.

Inquire for full information.

Install "Stapax" positive lubrication.

STAPAX

LUBRICATION PRODUCTS CO.
5604 Herman Avenue • Cleveland 2, Ohio

▲ Mention Item NED-3570 when writing ▲

Hanchett Magna-Lock
ELECTRO-MAGNETIC KNIFE BAR
With the Exclusive
LAMINATED TOP PLATE

HANCHETT Leads the Field Again With a Chuck That Holds Knives "Where It Counts" . . .

Another first in efficient magnetic work holding, this new knife bar will give you 22% more work area . . . enable you to hold knives firmly to the extreme edges of the chuck . . . resulting in better accuracy, more production.

It's ideal, too, for grinding many small pieces at an angle, the all-steel top plate giving more uniform distribution of holding power.

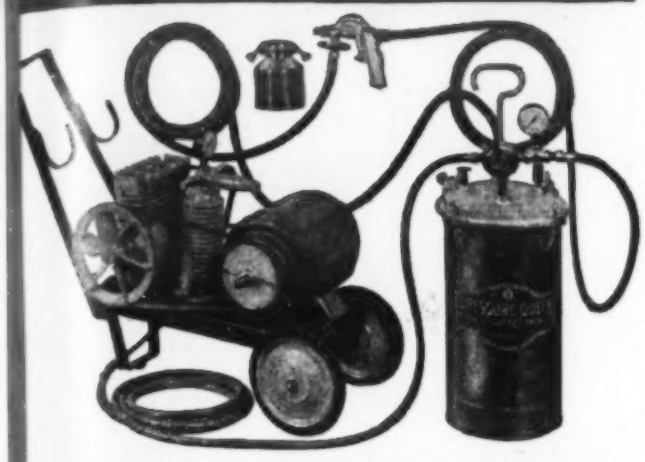
Two types available—an inexpensive bar without T-slots and the standard type.

WRITE TODAY FOR BULLETIN NE-59

HANCHETT MAGNA-LOCK CORP.
Magnetic Chucks and Devices
BIG RAPIDS, MICHIGAN, U. S. A.

▲ Mention Item NED-3571 when writing ▲

CUT PAINTING COSTS WITH PRESSURE QUEEN

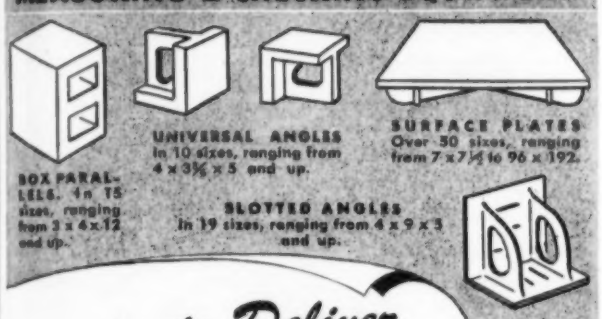


The saving in materials and labor on first painting job will pay for this complete 4-cylinder portable outfit. Your maintenance men can wheel it wherever work is to be done, from ground level, ladders or rigging. Handles any paint or spray solution. Absolutely no pulsation; no stops to build-up pressure. The outfit includes the compressor mounted as shown; all hose connections, 3-gallon material tank, spray gun and 1/2 h.p. motor or gas engine. Write for details.

THE CAMPBELL-HAUSFELD CO.
193 RAILROAD AVENUE HARRISON, OHIO

▲ Mention Item NED-3572 when writing ▲

Dependable
MEASURING & CHECKING EQUIPMENT



Ready to Deliver

Send for Complete Catalog

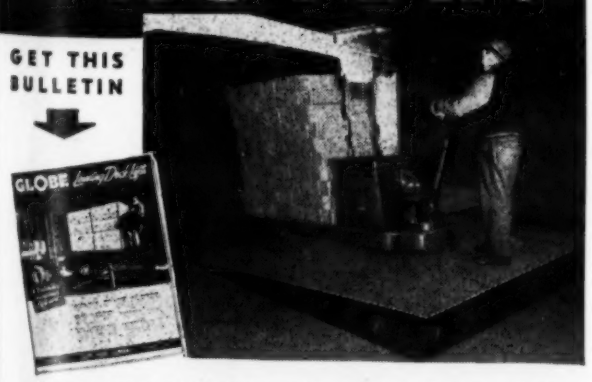
We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Road • Detroit 12, Mich.

▲ Mention Item NED-3573 when writing ▲

LOAD TRUCKS FASTER!

GET THIS BULLETIN



Move goods 50% faster with a Globe Loading Lift. Lifts loads to truck level, or from one floor level to another. Safer for workmen; safer for materials. Lifts 6,000 lbs.; any rise up to 58 inches. Platform 6' x 8'. Other sizes and Models as required. Hydraulic or electric. Low installation cost, easy to operate.

Write today for illustrated Bulletin E-2

GLOBE HOIST CO. PHILADELPHIA 18, PA. DES MOINES 6, IOWA

GLOBE LIFTS and ELEVATORS

▲ Mention Item NED-3574 when writing ▲

New Processes & Materials

FIRE RETARDANT PAINT

Applicable to any surface and drying to hard lasting finish that can be thoroughly washed to remove dirt, dust or grime, fire retardant oil-base paint has qualities of ordinary paint plus fire resistance. It can be used to paint walls, woodwork, furniture, ceilings and stairways in industrial, commercial and public buildings and can be applied by brush or spray equipment. One gallon will cover 500 square feet of surface. Paint is available in both white and colors for outside, interior flat or interior gloss application. White can be obtained in any size container but colors in 55-gallon drum lots only. Made by **F. R. P. Corp.**, Dept. NED-PB, 1018 S. Wabash Ave., Chicago, Ill.

▲ Mention Item **NED-3575** when writing ▲

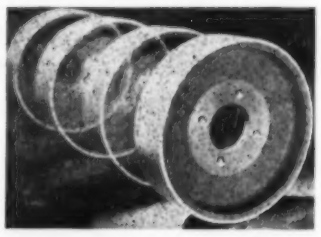
CLOSED CELLULAR RUBBER

Suitable for general use in industry, transportation and consumer products, Rubatex cellular rubber is composed of minute cells filled with nitrogen and each individually encased in wall of rubber. Because there is no escape of nitrogen or interchange between cells, material has high degree of resilience, low thermal conductivity, light weight and buoyancy. It has practically no moisture absorption.

Material can be molded to any desired shape or fabricated through die-cutting, stamping, splitting, cementing and other methods. It is obtainable in sheet form up to 1-inch thick which can be laminated for greater depth, and it is offered in either natural or synthetic rubber in wide range of colors. Made by **Great American Industries, Inc.**, Rubatex Div., 230 Park Ave., New York 17, N. Y.

▲ Mention Item **NED-3576** when writing ▲

SILICONE-METAL BONDING



Recommended for applications involving hot or cold liquids or gases, silicone rubber bonded to metal will withstand temperatures ranging from −160 to 500° F. Illustration shows layer of silicone rubber joined to periphery of aluminum casting. This bonding method suggests possible uses of bonded silicone-metal parts as gaskets for industrial ovens and refrigerating equipment, as diaphragms to seal lubricants in bearings, and as machine elements where extreme temperatures are involved. Because of dielectric qualities, silicone-metal electrical parts are practical. Made by **Stalwart Rubber Co.**, 151 Northfield Rd., Bedford, O.

▲ Mention Item **NED-3577** when writing ▲

ELECTRIC and ELECTRIC-EYE COUNTING

JUST OFF THE PRESS—16-page illustrated bulletin. Describes Modern Methods of Count Controlling Production Packaging, Deliveries, Batch Counting; Remote Production Counting. Send for your copy.

Tremendous aid to improved efficiency

WIZARD Electric Counters count anything that will operate a switch, photo-electric unit, or other circuit-breaking device. You can locate them at any distance from the actual source of count. Operations thruout the plant can be counted in Production Office.

Models for every purpose. Just tell us what you want to do.

Production Instrument Company
700-12 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

▲ Mention Item NED-3578 when writing ▲

LIGHT AND EASY TO CARRY
Put it where you need it!

STANDARD LITEWATE Sectional Roller Conveyor

—ideal for loading and unloading. Handles commodities up to 60 lbs.—moves bags, cases, cartons, hollow bottom, narrow, cleated and irregular packages or articles not suited to wheel conveyors. Less pitch required—operates at grades as little as ¼ in. to ⅜ in. per ft. Interchangeable spacing of rollers—from 1½ in. to 12 in. centers. Available in 10 ft. and 5 ft. straight sections and 90° and 45° curves. Keep LITEWATE conveyors handy in your shipping room—carry a section on your truck. For complete information write for Bulletin NED-59.

STANDARD CONVEYOR COMPANY
North St. Paul 9, Minnesota

Standard GRAVITY & POWER CONVEYORS

▲ Mention Item NED-3579 when writing ▲

TOP QUALITY EQUIPMENT ROLLS ON TOP-QUALITY GENERAL INDUSTRIAL PNEUMATICS

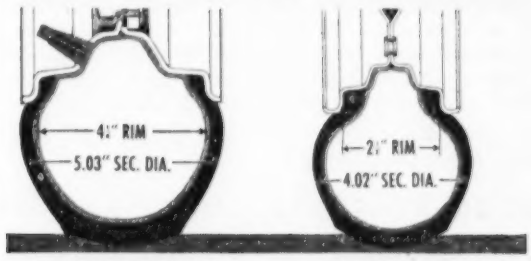
Wide-Base Generals provide easier steering, more cushioning for trucks by Kwick-Mix Co., Port Washington, Wis.

Generals provide extra traction for Power Sweeper by Parker Pattern & Foundry Company, Springfield, Ohio.

Low-Pressure Generals give longer, safer mileage on high-speed motor scooter by Lowther Mfg. Co., Joliet, Ill.

Generals provide greater stability, more ease in handling this feed truck by Ney Mfg. Company, Canton, Ohio.

GENERAL'S WIDE BASE MAKES THE BIG DIFFERENCE



WIDE BASE	NARROW
More Air Volume	Less Volume
More Load Capacity	Less Capacity
More Stability	Less Stability
More Cushioning	Less Cushioning

Available in assemblies of tires, tubes and wheels. Sizes O. D. 8" to 23"—200 to 2000 lb. load capacity.

SEND FOR NEW CATALOG . . .
Dept. 4, The General Tire & Rubber Company, Akron, Ohio

THE GENERAL TIRE & RUBBER CO.
Akron, Ohio

▲ Mention Item NED-3580 when writing ▲

Can You Afford To Burn Money?

BROOKS CAN HELP YOU CUT COSTS.....

Yes, you are burning money when you have scale in your boiler. For more than 40 years, the Brooks Boiler Treatment Company has specialized in the manufacture of boiler cleansing materials. The new Brooks Improved Boiler Metal Treatment and Brooks Scale-Go are guaranteed to save you every cent of that excess fuel cost, when generating steam in boilers containing scale. Manufactured under Brooks own original formulas, they are expressly designed for the removal and prevention of scale in steam boilers, and to stop and prevent rusting, pitting and corrosion. Brooks Improved Boiler Metal Treatment and Brooks Scale-Go each operate in a completely different manner, their selection depending upon your own particular needs. The Brooks Boiler Treatment Company maintains an Engineering Service Department at your command. Why not let them come in to assist in your boiler problems at no obligation to you?

BROOKS BOILER TREATMENT CO.

3304 East 87th Street • Cleveland 4, Ohio

▲ Mention Item NED-3581 when writing ▲

THOUSANDS OF MANUFACTURERS KNOW FROM EXPERIENCE

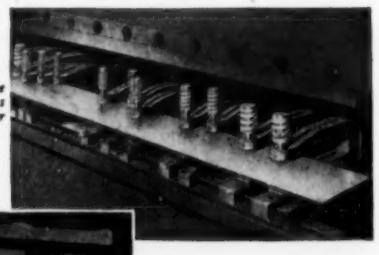
nothing can cut costs like

WALES HOLE PUNCHING AND NOTCHING EQUIPMENT

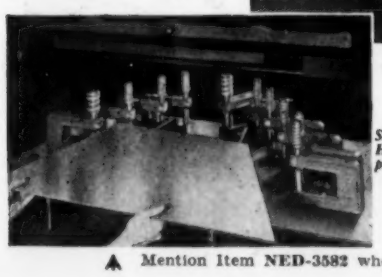
Here's an example... the case history of Wales Equipment with the Butler Manufacturing Company started by a Wales Service Engineer call. The result of this and subsequent calls, Butler has standardized on Wales Equipment for punching bolt holes in parts of their metal pre-fabricated buildings. In the advertisement at left, Butler stresses the point of LOWER COSTS. Wales Equipment with exclusive time-saving, money-saving features contributed to these LOWER COSTS.

IT'S TOO BIG A STORY TO TELL ON THIS PAGE. *Write for Catalog CJ.*

WALES-STRIPPIT CORPORATION
George F. Wales, President
363 PAYNE AVENUE, NORTH TONAWANDA, N. Y.
(Between Buffalo and Niagara Falls)
WALES-STRIPPIT OF CANADA LTD., HAMILTON, ONTARIO



Showing a typical setup of Wales Type "CJ" Hole Punching Units in a press brake similar to those used by Butler Manufacturing Company.



Showing a setup of Wales Type "CJ" Hole Punching Units in a stamping press.

▲ Mention Item NED-3582 when writing ▲

New Processes & Materials

NONGLARE WINDOW COATING

Applicable either by most conventional spray guns or by brush, 3M Sun-Stop Strip Coating is translucent green film that can be applied to factory windows and skylights to reduce heat and glare of summer sun. It is tough resin film which withstands water, soap and most commercial window-cleaning preparations. Film remains in place indefinitely yet can be removed easily by air blast or by being stripped off by hand. Coverage is 250 square feet per gallon sprayed to 0.001-inch thickness, and film becomes tack-free in five minutes and thoroughly dry after 24 hours. It is solvent type compound available in pints, quarts, gallons, 5-gallons and 55-gallon drums. Made by **Minnesota Mining & Mfg. Co.,** Dept. NED-SW, 900 Fauquier St., St. Paul 6, Minn.

▲ Mention Item NED-3583 when writing ▲

VINYL FILM

Manufactured for industrial applications, type 7051 translucent vinyl film is being used to fabricate industrial aprons and protective cuffs, as table coverings in hosiery mills to prevent snagging and as office equipment covers. It is made for use at normal room temperatures although it is satisfactory under either colder or warmer conditions if "hand" and flexing are not primary requirements. Film can be obtained in 36 and 54-inch standard widths in rolls of 0.004 gage in 200 or 250-yard lengths; 0.006 gage in 130 or 160-yard lengths; and in 0.008 gage in 100-yard lengths. Film is packaged on 6-inch cores with finished rolls approximately 9½ to 10 inches outside diameter. Uniform frosted surface of film imparted by special calenders prevents it from sticking or blocking and gives it "dry" hand. It is fire resistant, burning only when directly in contact with open flame, has high tear strength and can be printed upon with special vinyl inks. Made by **B. F. Goodrich Co.,** Dept. E, 500 S. Main St., Akron, O.

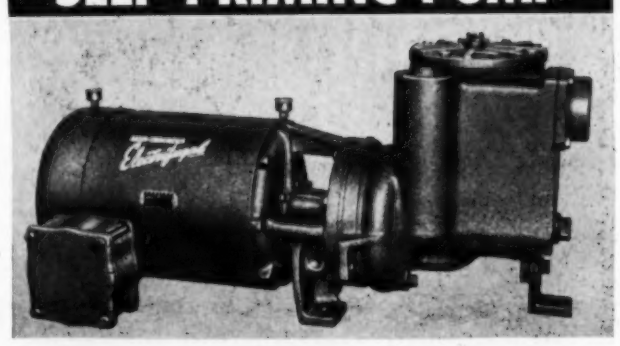
▲ Mention Item NED-3584 when writing ▲

COLD SOLDERS

Requiring no heat for application, cold type solders made from powdered aluminum can be used to fill in dents and damaged areas on sheet metal. Since no heat is used, damage to adjacent painted areas is avoided. Several successive applications can be employed to build up thicknesses to 1 inch. When solder is applied by spatula or wiper, solvent evaporates; and metal mass soon hardens sufficiently to be filed or sanded in preparation for paint, enamel or lacquer coatings. Made by **Reynolds Metals Co.,** 2000 S. Ninth St., Louisville 1, Ky.

▲ Mention Item NED-3585 when writing ▲

NEW ELECTRIFUGAL SELF-PRIMING PUMP



✓ Rapid Priming Action ✓ Compactness
✓ High Efficiency ✓ Low Maintenance
✓ Easy Portability ✓ Weatherproof

THIS NEW self-priming, close-coupled pump has an automatic spring valve for faster, smoother transition from priming or vacuum pumping to straight centrifugal action. Especially designed for handling gasoline, oil, kerosene, and other light distillants. Available in sizes from 1½ to 3 inches with capacities from 30 to 350 gpm and heads up to 300 ft. Bulletin 08B6319. A-2705

Electrifugal is an Allis-Chalmers trademark

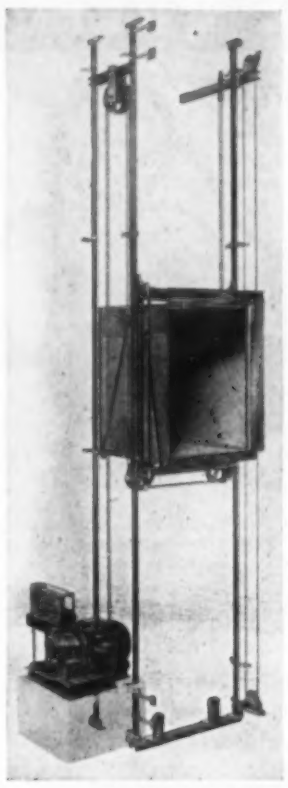
ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS.

ALLIS-CHALMERS

▲ Mention Item NED-3586 when writing ▲

New Electric Freight Elevator is Self-Supporting

Inexpensive to Install



A new self-supporting elevator has been designed to provide a low-cost, electric elevator installation for every type of business and institution that requires vertical freight transportation, but does not need heavy-duty freight elevators. It fills a long-felt need by making materials handling considerably easier and less costly for small business. The elevator is being made in three standard sizes of 1,500, 2,000 and 2,500 pounds capacity. Vertical rise is limited to 35 feet—sufficient for a three story building.

As illustrated, the elevator is installed as a complete unit in a new or existing hoistway. Only 11 feet of headroom is needed above the top floor landing. Expensive construction, such as a penthouse on top of the building for the electric motors and other operating machinery, overhead supports, roof alteration and building reinforcement, is eliminated. As the elevator supports itself, no heavy strain is placed on the building. The weight of car, load, hoist ropes and sheaves is carried by three guide rails in the hoistway and transferred to the bottom of the shaft. The elevator can be operated by any employee without special training. For complete details, write for Bulletin B-720X. Address: Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

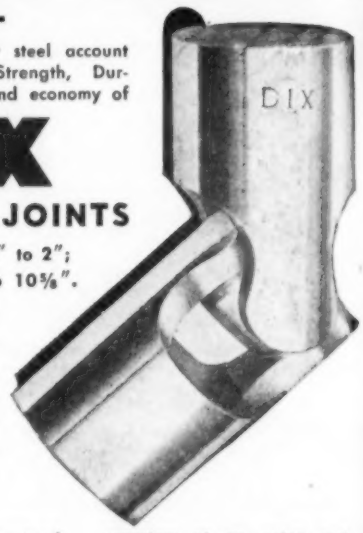
▲ Mention Item NED-3587 when writing ▲

PRECISION—

as well as finest alloy steel account for the unequalled Strength, Durability, Dependability and economy of

DIX UNIVERSAL JOINTS

14 sizes, bores 3/16" to 2"; overall length 1¾" to 10⅝".



Widest distribution and longest, severest service attest their unmatched quality. Exceed even rigid requirements of Army, Navy and Air Corps specifications.

- Concentricity: Guaranteed within .0005.
- Grinding: To infinite degree of accuracy. No binding, backlash or inplay of pins.
- Flush Rivets: Ground flush with the body for close quarters at no extra cost.
- Greater Angle of Operation: No loss of strength. Max. bearing surface.
- Alloy Steel: Highest grade for max. strength, min. weight.
- Heat Treated.

Write for fully descriptive literature.

Mfd. by

LOVEJOY FLEXIBLE COUPLING CO.

Also Lovejoy Flexible Couplings and Variable Speed Transmissions.

5003 W. Lake St. Chicago 44, Ill.

▲ Mention Item NED-3588 when writing ▲

Ullman 360° ALL ANGLE Inspection Mirrors

SEE Around CORNERS & CURVES

USED BY LEADING INDUSTRIAL ORGANIZATIONS

For greater inspection efficiency—see around *all* corners and curves with a set of precision-made C-MASTER Inspection Mirrors. Easily turned to all angle, mirrors stay firmly in position until re-angled. Meet all job conditions. Replaceable mirrors. Order from your jobber or write direct.

SEND FOR BOOKLET NE5 TODAY!

ULLMAN PRODUCTS CORP.
ULLMAN BLDG., B'KLYN 15, N. Y.

▲ Mention Item NED-3589 when writing ▲

NEW CONDENSER CUTS REFRIGERATION COSTS SAVES COOLING WATER

*PATENTED

● The Niagara Aeropass Condenser cuts the cost of refrigeration by running compressors at lower head pressure, saving up to 35% of power and 95% of the cooling water.

The refrigerant gas passes thru two coils in an air stream. The first, "Dual-Pass"* dry coil, removes the superheat by air cooling and condenses oil vapor. The second, condensing coil, drenched by recirculated water spray, condenses by evaporation, transferring to the air 1,000 BTU for every pound of water evaporated. This done at low temperature, no scale forms on condenser tubes to clog air passage.

Between the two coils is the "Oilout,"* which purges the system of crankcase oil and dirt, keeps it always at full capacity.

The "Balanced Wet Bulb"* control holds head pressure at the practical minimum. It automatically proportions the fresh air stream to the condensing load with the full benefit of power-saving on cool days, providing full capacity for peak loads.

Niagara Aeropass design results from over fifteen years' experience condensing by air. It is completely trustworthy for year 'round operation. Users say, "It saves half the difficulties and labor of running a refrigeration plant."

Units range from 10 to 100 tons capacity.
For full information ask for Bulletin 103.

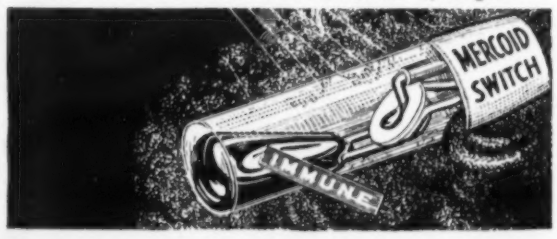
NIAGARA BLOWER COMPANY
Over 35 Years Service in Industrial Air Engineering
Dept. ED, 405 Lexington Ave. New York 17, N. Y.
District Engineers in Principal Cities

▲ Mention Item NED-3590 when writing ▲

MERCOID CONTROLS
FOR OIL BURNERS, STOKERS, GAS BURNERS, REFRIGERATION, AIR CONDITIONING AND VARIOUS INDUSTRIAL APPLICATIONS

Pressure Control

USE MERCOID "DA" CONTROLS FOR THOSE TEMPERATURE AND PRESSURE PROBLEMS
Both controls are available in a number of ranges



Mercoid Controls have an advantage, because they are equipped exclusively with Mercoid DUST-PROOF switches —hence the assurance of better control performance, longer control life and greater economy in control value.

THE MERCOID CORPORATION • 4213 BELMONT AVE. • CHICAGO, ILL.

▲ Mention Item NED-3591 when writing ▲

OSTER for faster, better threading

OSTER No. 502 "PIPE MASTER"
(A complete, portable threading machine)

Standard range ¼" to 2" pipe. Extra range ⅛" pipe. Connected to universal drive shaft, pipe from 2½" to 6" can be threaded. Bolt range ¼" to 1½".

Wheel stand or floor stand are extras.

Now, with its quick-action "SPINFAST" Front Chuck, the Oster No. 502 "PIPE MASTER" saves more time than ever. It's a COMPLETE, PORTABLE power threader with 17 modern features. Quick-opening, adjustable die-heads and dies, or solid die adaptor are optional, as specified. Note that nipples as short as 3½" in the 2" size can be threaded on both ends without using a nipple chuck; pipe or studs as short as 2½" can be held and threaded on one end. (Other sizes in proportion.) *Write for Catalog No. 24-A.*

THE OSTER MANUFACTURING CO.
2066 EAST 61st STREET • CLEVELAND 3, OHIO, U.S.A.

▲ Mention Item NED-3592 when writing ▲

New Processes & Materials

FUEL OIL TREATMENT

When added to fuel oil for use in boiler furnaces and locomotives, Nalco SR-155 treatment prevents sludge formation in storage tanks, eliminates fouling of fuel oil preheaters, stops gumming at burner tips, and removes soot in combustion chamber and flues. It is added to oil in storage tank and requires no special feeding equipment. Made by **National Aluminate Corp.**, 6211 W. 66th Place, Chicago 38, Ill.

▲ Mention Item NED-3593 when writing ▲

CUTTING OIL

Tested and found to be stable under all operating conditions relative to various machining operations on all types of stainless steel, chome nickel alloys and Monel, Excel No. 60 is high sulfur ester cutting oil which helps to provide improved finish and increased tool life at higher speeds and feeds than standard. Trial samples of oil will be furnished upon request. Made by **Oil Products Co.**, 4110 S. LaSalle St., Chicago 9, Ill.

▲ Mention Item NED-3594 when writing ▲

PLASTIC-LAMINATED FOIL

Providing effective moisture barrier, Polyfoil polyethylene-laminated foil is suitable for bulk packaging of all types of hygroscopic materials, delicate control and indicating instruments, pharmaceuticals, cosmetics, dehydrated foods and similar products. Plastic film will exclude liquids and vapors; is nonblocking; is unaffected by salt or brackish water, active solvents, and dilute or concentrated acids; is nontoxic; has no odor and retains flexibility at temperatures below —85° F. Material can be heat-sealed and is suitable for automatic machine packaging operations. Plastic film increases tear resistance of foil and blocks passage of water vapor through pin holes and openings resulting from folds and machine handling of foil. Material is available in sheets up to 50 inches wide and in range of thicknesses. Made by **Floyd A. Holes Co.**, 51 Northfield Rd., Bedford, O.

▲ Mention Item NED-3595 when writing ▲

RUBBER FLOOR MATTING

Corrugated rubber matting with a backing of sponge rubber is designed to reduce fatigue, absorb noises, and minimize breakage. It is 36 inches wide and ¼-inch thick, with ⅛-inch corrugated rubber matting and sponge rubber backing of same thickness. It is available in 30-foot rolls. Matting prevents slipping and insures long wear and ease of cleaning. Made by **B. F. Goodrich Co.**, Dept. E, 500 S. Main St., Akron, O.

▲ Mention Item NED-3596 when writing ▲

You'll Save Time, Money, Man-Power With This Easier-Handling, Longer-Wearing "Weld-Bilt" HYDRAULIC LIFT TRUCK

"Weld-Bilt" PRODUCTS

Truckers use the WELD-BILT Hydraulic Lift Truck with enthusiasm because it's easier to move, simple to operate with minimum effort. Yet it is *tough* and sturdy enough to take years of hard work and abuse.

Important to the WELD-BILT's longer service life is the HORIZONTAL MOUNTING of the Hydraulic Unit — locating this vital unit in a protected position away from any danger of daily knocks and bumps. And this unit is interchangeable; it can be replaced after years of service to add still longer utility to the truck.

Prove the benefits of WELD-BILT equipment in *your* materials handling. There's a size to fit your needs exactly. Write for bulletin 311.

WEST BEND EQUIPMENT CORP.
220 WATER STREET, WEST BEND, WISCONSIN
MATERIALS HANDLING ENGINEERS

▲ Mention Item NED-3597 when writing ▲

How you can REPAIR CONCRETE FLOORS QUICKLY

Fill up cracks, ruts, shallow holes, uneven spots, etc., in concrete floors with Smooth-On No. 7B Quick Floor Patch Cement. The patch will harden quickly, adhere strongly to an old floor, and is ready for use as soon as it is hard.

Anyone can apply Smooth-On No. 7B by following the simple directions that come with it. The patches will stay tight, because Smooth-On No. 7B expands slightly as it hardens and wedges the patch securely in place. Order Smooth-On No. 7B Quick Floor Patch Cement in 5-, 20- or 100-lb. size.

FREE Floor Patch Folder and Metal Repair Handbook

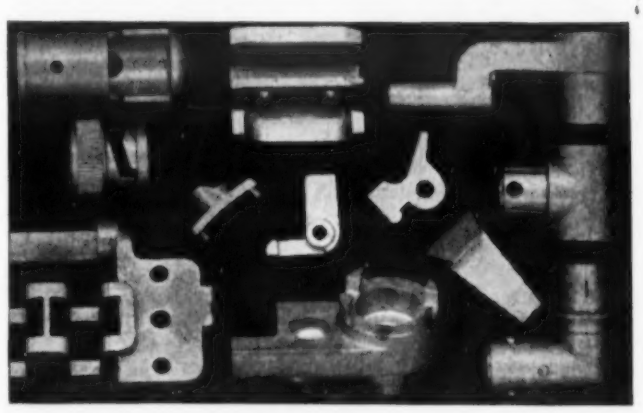
Folder gives full information on Smooth-On No. 7B Quick Floor Patch Cement. With it we'll send you the famous 40-page Smooth-On Repair Handbook, full of time-saving, money-saving repairs on plant and home equipment. Send now.

SMOOTH-ON MFG. CO., DEPT. 10E
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON QUICK FLOOR PATCH CEMENT

▲ Mention Item NED-3598 when writing ▲

SMALL...INTRICATE ACCURATE...QUICK



Small Precision Castings in ferrous and nonferrous metals, of various alloys, are our specialty. Sizes range from the smallest which run 750 castings per ounce to the largest which are about three pounds each. All meet highest standards of accuracy and can be produced in large quantities or on a small experimental basis. These intricate investment castings may be the answer to your problem. Write for complete information.

PRECISION METALSMITHS, INC.
6511 Cedar Ave. Cleveland 3, Ohio

▲ Mention Item NED-3599 when writing ▲

Easy-handling JOHNSON general-purpose clamshell

FAST OPERATING
Big sheaves, sealed-in needle bearings cut friction loss, get more digging power to cutting edge.

ALL-WELDED
Strong, smooth, fast-cleaning. Teeth, counterweights removable for rehandling usage.

LET US SHOW YOU SAVINGS ON YOUR WORK

9 SIZES
⅜ - ½ - ¾ - 1 - 1¼ - 1½ - 1¾ - 2 - 2½ yds.

THE C. S. JOHNSON COMPANY
Champaign, Ill.
Send us complete facts on _____ yd. General-Purpose Clamshell.
NAME.....
TITLE.....
COMPANY.....
STREET.....
CITY..... STATE.....
KOEHRING SUBSIDIARY

▲ Mention Item NED-3600 when writing ▲

SPECIAL PORTELVATORS for LIFTING LEVELING TRANSPORTING

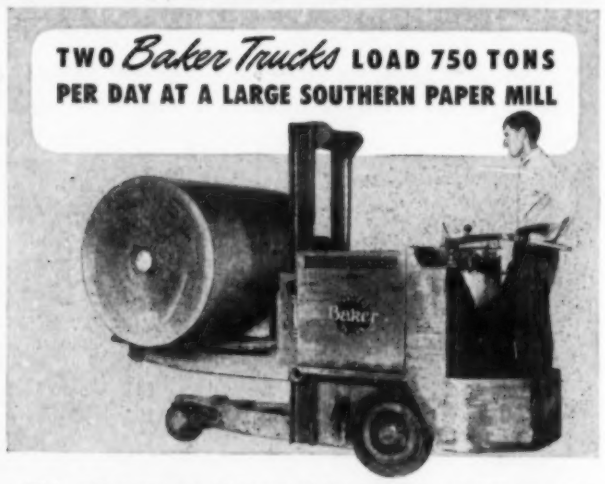
The proved Portelvator principle of lifting and leveling, applied to special Portelvator designs, has solved the problem of handling bulky and awkward materials, and has eliminated costly bottle-necks, in hundreds of installations.

Portelvator cannot tip or slip. Locks instantly and securely wherever stopped. Automatic features and controls to suit your special need. Write for literature, or state your requirements for a firm proposal.

THE Hamilton TOOL COMPANY
SUPER SENSITIVE DRILLING MACHINES · TAPPING MACHINES · PORTELVATORS
901 HANOVER STREET • HAMILTON • OHIO • U • S • A

Mention Item NED-3601 when writing

TWO Baker Trucks LOAD 750 TONS PER DAY AT A LARGE SOUTHERN PAPER MILL



This mill turns out 480 tons of liner board and 170 tons of kraft paper in a 24-hour day. Practically all of this is immediately loaded into cars with two Baker Hy-Lift trucks—operating round-the-clock—usually at high speed—service that is hard and gruelling.

The company also has two Baker Fork Trucks which are used for warehousing rolls of paper and general supplies.

Despite their continuous, hard service, the trucks are giving top performance with a minimum of maintenance and down time—proving again that Baker Trucks are built to "take it"!

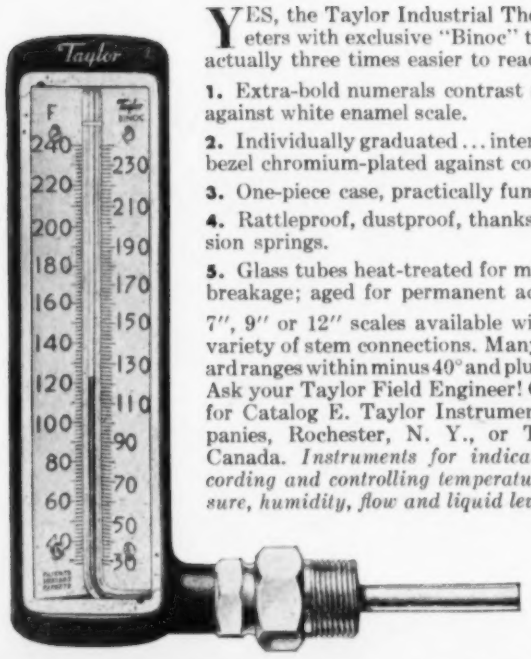
Let the Baker Material Handling Engineer help you solve your handling problems.

BAKER INDUSTRIAL TRUCK DIVISION *of The Baker-Raulang Co.*
1245 West 80th Street • Cleveland, Ohio

Baker INDUSTRIAL TRUCKS

Mention Item NED-3602 when writing

3 times easier to read!



YES, the Taylor Industrial Thermometers with exclusive "Binoc" tube are actually three times easier to read! Plus:

1. Extra-bold numerals contrast sharply against white enamel scale.
2. Individually graduated . . . interlocking bezel chromium-plated against corrosion.
3. One-piece case, practically fumeproof.
4. Rattleproof, dustproof, thanks to tension springs.
5. Glass tubes heat-treated for minimum breakage; aged for permanent accuracy.

7", 9" or 12" scales available with wide variety of stem connections. Many standard ranges within minus 40° and plus 950°F. Ask your Taylor Field Engineer! Or write for Catalog E. Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

TAYLOR INSTRUMENTS MEAN "ACCURACY FIRST"

Mention Item NED-3603 when writing

New Processes & Materials

LUBRICATING PAINT

Designed to give dry lubricated surface when applied by brush, dipping or spraying, Neolube drys in seconds and leaves lustrous dustfree adherent film of graphite. Applications of this lubricant include use on locks, hinges, drawers, windows, typewriters, meters, alarms and similar mechanisms. Since film is electrically conductive, it can be used for lubricating electrical contact points, switch blades and electronic tube prongs. It is priced at $1 for 2 ounces or 35 cents for ⅓-ounce bottle. Made by **Huron Industries,** P. O. Box 557 A, Port Huron, Mich.

Mention Item NED-3604 when writing

SYNTHETIC LATEX

Suitable as replacement for casein in binding pigments used in paper coatings, as base for water paints, as back sizing for pile fabrics in textile industry and as reinforcing agent for other synthetic latices, Polyco 350 synthetic latex compound is stable dispersion of flexible high styrene copolymer resin. It is stabilized during manufacture to withstand extremes of handling and machining operations, and its viscosity is controlled to provide greatest possible versatility. Dispersion is readily dilutable with water to reduce working solids and viscosity. It is sufficiently fluid for saturation of porous articles, yet has ample working viscosity so that it requires little or no additional thickening. Made by **American Polymer Corp.,** Dept. 901, 101 Foster St., Peabody, Mass.

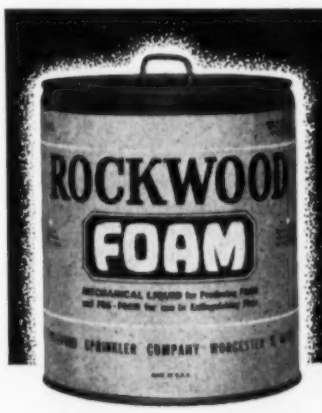
Mention Item NED-3605 when writing

STEEL HARDENING COMPOUND

Drills, chisels, gouges, caulkers, reamers, dies, taps, cutting tools, and any carbon or high speed steel can be hardened quickly to desired depth by means of Hi-Speed-It compound. Object to be hardened is heated to cherry red color and then dipped, rolled or stirred in gray powder compound. From 15 to 30 seconds are allowed for powder to fuse and form crust, after which object is again dipped lightly in powder. Object is reheated cherry red and is then quickly quenched in cold water or brine. Depth of hardness is increased by repeating first four steps before quenching. High speed steels are processed in similar manner but at higher temperatures, and they are quenched in oil. Compound contains no cyanide or other producers of toxic fumes. Made by **Wilson Carbon Co.,** 60 E. 42nd St., New York 17, N. Y.

Mention Item NED-3606 when writing

Whip GASOLINE FIRES FASTER with ROCKWOOD FOAM LIQUID



Gasoline and other flammable liquid fires can now be extinguished faster and more economically with Rockwood's Foam Liquid and Rockwood Type FFF FogFOAM Nozzles.

Rockwood Foam is available in either 5 gallon cans or 50 gallon drums. The Type FFF FogFOAM Nozzle is available in three sizes for service on 1½", 2½" and 3½" hose lines.

Write for prices and complete information.

ROCKWOOD TYPE FFF FogFOAM NOZZLE

3 TYPES OF DISCHARGE
- Wide pattern of FogFOAM
- Long solid range Foam stream
- High velocity WaterFOG

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

Mention Item NED-3607 when writing

ZOO "Self-Wind" BALANCE REEL

PUTS PORTABLE POWER TOOLS WITHIN EASY, INSTANT REACH

FOR ALL TOOLS UP TO 10 LBS.

Reduce worker fatigue and speed production with these new reels that hold portable power tools for instant use. Reel tension is instantly adjusted to balance power screw driver, drill, nut runner, or other tool weighing up to 10 lbs. Also another model from 10 to 25 lbs. Mounted on a beam or cable in work position above the workman, it enables him to lower the tool when he needs it, raise it out of the way when finished. Saves work, saves shop clutter, reduces tool breakage. Aluminum alloy housing, oilless bearings. With 6 ft. cable. Ask your jobber or write direct.

Aero-Motive AERO-MOTIVE MFG. CO.
1803 ALCOTT ST. KALAMAZOO 24, MICHIGAN

Mention Item NED-3608 when writing

Fast as a Blue Streak
MAGIC TYPE QUICK-CHANGE CHUCKS

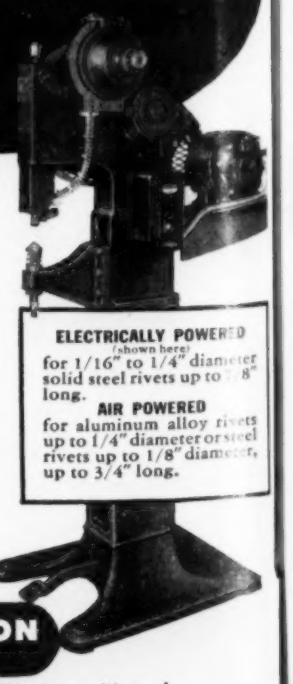
Save set-up time with this "Magic" Quick-Change Chuck. When you raise locking ring, collet drops out automatically for a quick, safe tool change without stopping spindle! Four styles of collets available to accommodate various tools. Consult our engineers on adapting "Magic" Quick-Change Chucks and Collets to your production problems.

Requirements for most sizes can be filled immediately. See pages 98-102 of Scully-Jones Catalog No. 500.

Scully-Jones AND COMPANY
1952 SO. ROCKWELL ST., CHICAGO 8, U.S.A.

Mention Item NED-3609 when writing

Top Speed with T-J RIVITORS
. . . Automatically Feeds and Sets Solid Rivets!



On countless assembly jobs today—T-J RIVITORS are doing the rivet setting *faster and better!* T-J feeds and sets solid rivets *automatically* . . . no manual rivet handling . . . easy for women operators. T-J produces a solid rivet joint of 10% to 15% greater strength—a completely filled hole . . . no flashing . . . a neat, balanced head. Handles many types of rivets . . . saves labor . . . cuts costs! Write for bulletin. The Tomkins-Johnson Company, Jackson, Michigan.

ELECTRICALLY POWERED (shown here) for 1/16" to 1/4" diameter solid steel rivets up to 1/8" long.

AIR POWERED for aluminum alloy rivets up to 1/4" diameter or steel rivets up to 1/8" diameter, up to 3/4" long.

T-J ..FOR TOUGH JOBS
TOMKINS-JOHNSON RIVITORS

Mention Item NED-3610 when writing

BIG CAPACITY Hot Water Booster fits into SMALL SPACE

IN NEW ENLARGED WASHROOMS
• • •
IN NEW INDUSTRIAL PROCESSES

● Boosting your plant's hot water supply can be done easily and economically with the General Instantaneous Water Heater. Extremely compact, it can be spotted almost anywhere throughout a plant. Economical to install ... no tank, no excavating, no complicated piping. Economical to operate... designed for use with steam through shell... also, with exhaust steam or below water line on heating boilers.

This space-saving, low-cost heater is available in 12 sizes —capacities 6 to 270 gals. per minute. Piping-hot, rust-free water supplied through seamless copper tubing... a long life feature. Write for Catalog 18. General Fittings Co., Dept. I, 123 Georgia Avenue, Providence 5, Rhode Island.

GENERAL

TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

▲ Mention Item NED-3611 when writing ▲

Save! MANPOWER • MONEY • ACCIDENTS with a "CANTON" Portable Floor Crane

One man and a CANTON crane can lift and transport loads up to 3 tons. Safety mechanism holds the load at any point. Light weight tubular steel construction. Made in 8 sizes. Ask for bulletin N49.

The HILL ACME Company "CANTON" DIVISION 6404 Breakwater Ave CLEVELAND 2, OHIO

▲ Mention Item NED-3612 when writing ▲

NOW PRECISE SUPER 40

45,000 R.P.M. 1/5 H.P.

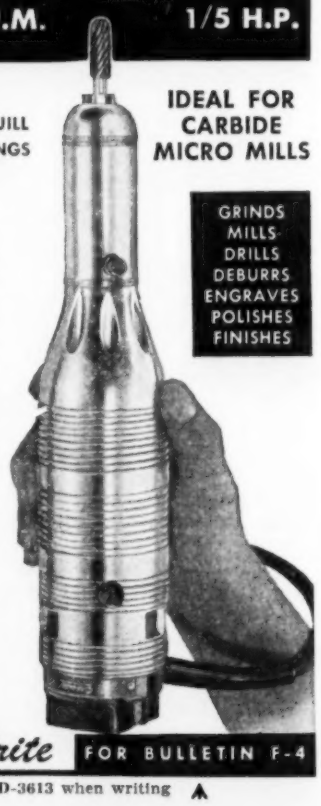
★ NEW ALL-METAL HOUSING
★ NEW, STRONGER PRECISE QUILL
★ NEW SEALED MICRO BEARINGS

IDEAL FOR CARBIDE MICRO MILLS

GRINDS MILLS DRILLS DEBURRS ENGRAVES POLISHES FINISHES

More than a portable grinder-miller ... this is a high-speed precision machine tool for use with or without SUPER-COOLFLEX Shaft Attachment or as Motorized Quill mounted in lathe, milling machine, drill press, etc. Thousands of cost-cutting uses on all materials from wood to the hardest steel. PRECISE tools and attachments are available for almost any production set-up. New sealed, micro-precision bearings never need lubrication. 115 volt AC-DC motor is protected by replaceable fusetron.

PRECISE PRODUCTS CO. 1346 CLARK ST. ● RACINE, WIS.

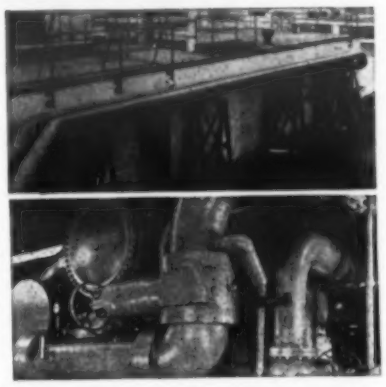


Write FOR BULLETIN F-4

▲ Mention Item NED-3613 when writing ▲

New Processes & Materials

REINFORCING FABRIC



Woven from glass fibers, Glasfab reinforcing membrane fabric for water and corrosion proofing can be used as lagging on interior, exterior and underground pipe lines. It is rotproof, will not char at high temperatures and has no capillary or "wicking" action. Because it is applied by spiral wrapping, it can be used on wide range of pipe sizes and fittings. Being open mesh, it is easily impregnated and can be used with any specification of waterproofing mastic or compound for either hot or cold application. It is available in widths from 2 to 36 inches. Made by **Lexington Supply Co.**, Dept. 134, 4815 Lexington Ave., Cleveland, O.

▲ Mention Item NED-3614 when writing ▲

METAL PRIMER

Consisting of balanced formula of orthophosphoric acid, dichromate compound, extenders and wetting agents, Ospho metal primer is applied directly over rusted surfaces. When applied it causes rust to change chemically to iron phosphate which is inert hard substance offering moistureproof and airtight surface upon which to apply paint. Made by **Rusticide Products Co.**, 3125 Perkins Ave., Cleveland 14, O.

▲ Mention Item NED-3615 when writing ▲

METALLIZING SERVICE

Wear-resisting surface having hardness of up to Rockwell 68 C can be produced on almost any metal part by means of precision metallizing process which is available as service. Worn bearing surfaces, shafts, lathe spindles, mill rolls, concrete forms, valve stems, propeller shafts and many other parts can be metallized and remachined to original tolerances for reuse at relatively low cost. Process can be used to repair blow holes in castings, provide corrosion-resistant lining for plating tanks, make stainless steel overlay on rolls, and change or repair contour of molds. Illustration shows worn cement gun base (Fig. 1), base being metallized (Fig. 2), and repaired unit (Fig. 3).

Almost any metal in wire form can be sprayed, and in some instances metallized overlays can be made up to 3 inches thick. Temperatures involved in metallizing will not cause warpage or destroy temper of base metal. Service offered by **Bedford Gear & Machine Products, Inc.**, 160 Harrison St., Bedford, O.

▲ Mention Item NED-3616 when writing ▲

SPRING PRESSES

POWER AND FOOT OPERATED

For riveting, staking, stamping and similar operations on small light parts. Constructed to compensate for variation in thickness of the work and to deliver a UNIFORM BLOW AT EVERY STROKE.

M-110 (illustrated) motor driven to eliminate fatigue factor of foot operated press—similar press M-130, equipped to operate by compressed air.

SEND FOR BULLETIN

EST. TF 1834

THE TAYLOR & FENN CO. HARTFORD 1, CONN.

▲ Mention Item NED-3618 when writing ▲

IF IT'S SPECIAL SEE PROGRESSIVE

QUALITY PROMCO BRAND

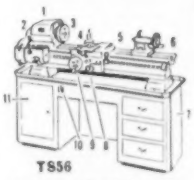
ENLARGED VIEW

KEEP YOUR COSTS DOWN

Progressive specializes in manufacturing special heads, threads and finishes on any metal or alloy adapted to cold upset. Please write for catalog showing many Progressive specials. Catalog includes purchasing and engineering helps.

The PROGRESSIVE MANUFACTURING CO.
46 NORWOOD ST.
TORRINGTON, CONNECTICUT

▲ Mention Item NED-3619 when writing ▲



1. Zero Precision Taper Roller Bearings—most accurate made.
2. 1⅜" hole thru spindle—1" collet capacity.
3. 11¼" Swing.
4. Spindle run out accuracy within .0005.
5. Heavier carriage, wider bearing on bed.
6. 56" Bed held within .0005" of parallel alignment.
7. Reinforced steel cabinet bench with plate top.
8. Large double wall apron.
9. Standard big lathe controls.
10. Front Switch.
11. 8-speed, v-belt, enclosed underneath motor drive.

The more you compare

Unless you have kept up-to-the-minute on the post-war developments in the new lighter, less expensive lathe field, you will be surprised at the tremendous advances in accuracy, capacity, speed, stamina and *earning power* that have been made in this field.

You will also find, that the more you compare these new lathes, the more you will determine on

SHELDON

One of the New Sheldon big little lathes
WRITE FOR NEW G-48 CATALOG

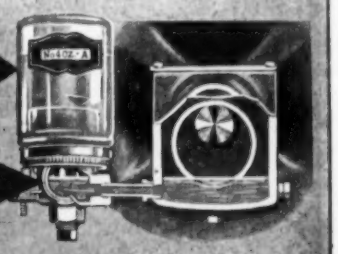
SHELDON MACHINE CO. Inc.
Manufacturers of Sheldon Precision Lathes • Milling Machines • Shapers
4215 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U.S.A.

▲ Mention Item NED-3617 when writing ▲

NOW! Positive Bearing Protection

ACRO Dual Visibility LUBRICATORS feed oil constantly — never too much, never too little — to save costly repairs on ring or ball bearings. Automatic . . . ACRO LUBRICATORS need no attention six to twelve months. No guesswork . . . positive action . . . no bearing failures due to faulty oiling. No drip, no waste, no splattering . . . protects equipment, reduces fire hazards.

ACRO Dual Visibility LUBRICATORS
1. SEE oil supply in reservoir
2. KNOW oil level on bearings through special ACRO "window"



Easy to install.. Pays for itself

Simple design, no floats, valves, or moving parts. Outside nut sets exact oil level desired for all time. Sturdy construction outlasts motor. Approved by maintenance men . . . Acclaimed by management . . . Endorsed by engineers.
Write for interesting free folder

ACRO Metal Stamping Co.
337 E. Reservoir Ave. • Milwaukee 12, Wis.

▲ Mention Item NED-3620 when writing ▲

THE ANSWER
To Many LIFTING Problems

LYON-Raymond
PORTABLE HYDRAULIC ELEVATING TABLE

Worried about costs? Speed? Safety? Damage?—and other factors in handling materials? Then look into these many jobs this handy Lyon-Raymond Elevating Table is designed to do.

HERE-ARE JUST 12 OF ITS USES:

1. Die handling
2. Sheet feeding
3. Adjustable section in conveyor system
4. Work table
5. Assembly bench
6. Positioning work to machine
7. Support for overhanging work
8. Adjustable test bench
9. Transfer table
10. Positioning parts for attachment
11. Welding positioner
12. Loading and unloading

Write for FREE illustrated booklet.

LYON-Raymond Corporation
791 Madison St., Greene, N.Y.

▲ Mention Item NED-3621 when writing ▲

Cut Glove Costs with "PLASTIGLUV"

The Industrial Safety Glove that WEARS LIKE IRON!

Knit Wrist, Safety Cuff and Gauntlet, also Ladies' Styles

Plastic Coated and Impregnated for Long Hard Wear

Get more hours of wear per dollar with Belle City's tough new "Plastigluv"! Full cut and comfortable, with cotton fabric base, "Plastigluv" is superior in every respect to neoprene rubber coated gloves and ordinary leather palm gloves.

Note these outstanding "Plastigluv" features: High dielectric strength for longer lasting—no exposed seams • Acid, alkali, heat and flame resistant • Impervious to most oils • Waterproof • Abrasion-resistant • Non-slip finish • Conforms to hand's natural grip, effecting smooth palm grasp • Complete flexibility makes it serviceable for any job • Easily washed—dirt can't penetrate • *Ideal for use in all industries.*

Factories in Racine, Wis. and Kewanee, Ill. • *Write for information and prices*

BELLE CITY GLOVE COMPANY
112 EAST CHESTNUT ST. • CHICAGO 11, ILLINOIS

▲ Mention Item NED-3622 when writing ▲

Your Sandblast Problems Answered IN THIS *FREE* FOLDER

WRITE FOR YOUR COPY TODAY

Department M
Sanstorm Mfg. Co.
Santa Clara and H Sts.
Fresno, California

Please send your free Sanstorm folder

Name.....

Address.....

City.....State.....

▲ Mention Item NED-3623 when writing ▲

NEW *Literature* AND *Catalogs*

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Chrome-Nickel Stainless Steel

Eastern Stainless Steel Corp.—128-page manual entitled "Handbook for the Fabricator" contains pictorial applications of chrome-nickel stainless steel sheets and plates. Data on chemical composition, physical properties, processing and fabrication of sheets and plates are included.

▲ Mention Item NED-3624 when writing ▲

Oil-Hydraulic Control Systems

Hydraulic Equipment Co.—Four illustrated bulletins describe series V12, V13 and V16 plunger type control valves and series 3000 four-bolt oil-hydraulic gear pumps, respectively. Pumps are available in six basic sizes with capacities ranging from 15½ to 64 gallons per minute at 1000 pounds per square inch.

▲ Mention Item NED-3625 when writing ▲

Jaw Crushers

Pennsylvania Crusher Co.—12-page illustrated bulletin No. 5011 presents features of Kue-Ken jaw crushers with capacities ranging from 5 to 250 tons per hour. Jaw plates are of manganese steel or special alloys available in various designs to suit different crushing requirements.

▲ Mention Item NED-3626 when writing ▲

Automatic Filter

Dollinger Corp.—8-page illustrated bulletin is descriptive of Staynew Model A-3 automatic filter which features two endless curtains carried on roller chains which are driven by sprockets keyed to shafts of curtain rollers. Filters are designed for industrial service where relatively large volumes of air are to be filtered.

▲ Mention Item NED-3627 when writing ▲

Hydraulic Seals

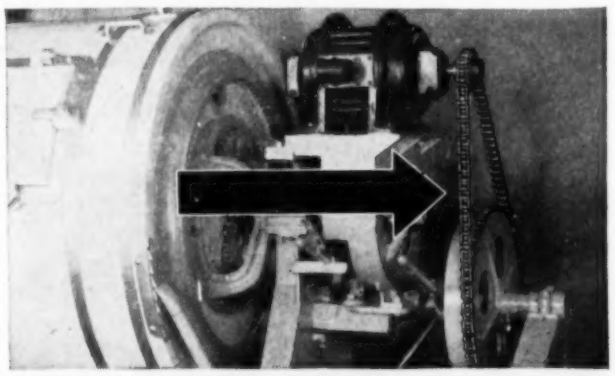
Miller Motor Co.—8-page illustrated reprint of article in *Machine Design* gives analysis of advantages and disadvantages of various types of sliding type hydraulic seals now in use. General operating characteristics of metallic and nonmetallic piston and piston rod seals and other type seals are discussed, and recommendations for their proper application are given.

▲ Mention Item NED-3628 when writing ▲

Metal Partitions

Mills Co.—44-page illustrated catalog No. 49-0 covers metal partitions which feature all welded construction of individual wall panels, sound-deadening treatment of panel surfaces and special treatment of bake-on enamel finishes to eliminate harsh light reflection. Accessories for various partition types, doors, ceilings, transoms, louvres, bookcases and hardware are described also.

▲ Mention Item NED-3629 when writing ▲



For Long-Life Maintenance-Free Drives, use—
DIAMOND ROLLER CHAINS

Speed ratios are constant because Diamond Chains do not slip. They are as positive as gears on short or long center distances—do not depend on friction—require little or no adjustment or maintenance.

For your motor and machinery drives, they insure long satisfactory performance at high efficiency. For helpful information, write for new Catalog 649. DIAMOND CHAIN COMPANY, Inc., Dept. 457, 402 Kentucky Avenue, Indianapolis 7, Indiana. *Offices and Distributors in All Principal Cities.*

DIAMOND ROLLER CHAINS

▲ Mention Item NED-3630 when writing ▲

HOOVER

America's ONLY Ball Bearing with HONED RACEWAYS

1. Extreme quietness.
2. Increased Load Capacity.
3. Extended life.
4. Reduced end play (axial displacement).
5. Reduced radial displacement.
6. Permanence of fit-up.
7. Increased resistance to Brinneling.
8. Uniformity of fit-up.
9. Freedom from vibration.
10. Perfection of dynamic balance.

Write on your Letterhead for Hoover Engineering Manual

HOOVER BALL and BEARING CO.
Ann Arbor, Michigan

THE ARISTOCRAT OF BEARINGS

▲ Mention Item NED-3631 when writing ▲

Round Pegs in Square Holes . . .

There are many weighing operations and in turn many types of scales for the various operations. The wrong scale in the wrong place is a round peg in a square hole. Such an application is inefficient, time consuming, high in cost and unprofitable. For example the use of a catch weight scale in a pre-determined weight application will waste enough product alone to pay for the right unit in a matter of weeks where volume is involved. EXACT WEIGHT Scales are pre-determined weight units. Pre-determined weight is our business . . . in fact our only business. We do not sell just scales. Rather we strive to reduce costs, control quality and diversify operations for efficient production of goods that are profitable to the user of EXACT WEIGHT Scales. Make a survey of your own. You will be surprised what a few changes will do to reduce your costs. If your problem is pre-determined weight write us for full details.

EXACT WEIGHT Shadowgraph is a simple even balance scale which substitutes a light ray for mechanical indication. A revolutionary change in modern industrial weighing.

INDUSTRIAL PRECISION
Exact Weight Scales

THE EXACT WEIGHT SCALE COMPANY
129 W. Fifth Avenue, Columbus 12, Ohio
783 Yonge St., Toronto 5, Canada

▲ Mention Item NED-3632 when writing ▲

For Positive Filtration of lubricating, hydraulic, fuel oils, solvents, etc.

Alsop "*Disc-Pak*" Filters completely remove all undesirable solids and minute particles, sludge, and moisture. The replaceable-cartridge type elements are made in eight different grades of porosity, making available practically any specific degree of fineness of filtration even to the removal of particles in the sub-micron stage. The progressive density of construction stops increasingly finer particles as they penetrate to the varying depth and prevents quick surface clogging.

"*Disc-Pak*" Filters are made in capacities up to 3600 gals. per hour for pipe line connections or complete with pumps.

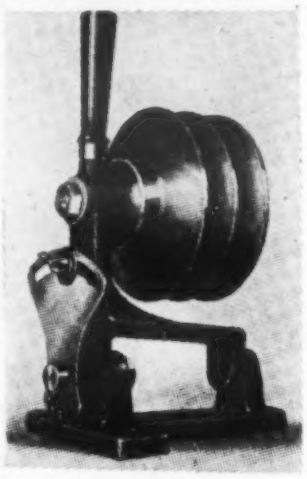
SEND FOR THIS FREE CATALOGUE
Our catalogue #144 contains complete and detailed information on "*Disc-Pak*" Filters. Write for your free copy.

The Alsop Engineering Corp.
405 East Rd., Milldale, Conn.

ALSOP ENGINEERING CORPORATION
Filters, Filter Discs, Pumps, Tanks, Mixers, Agitators

▲ Mention Item NED-3633 when writing ▲

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H. P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameters, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. **Advt.**

▲ Mention Item **NED-3634** when writing ▲

YOU CAN BE SURE.. IF IT'S Westinghouse

New Westinghouse Armorline Industrial Luminaires give added fixture performance and quality with precision-engineered Westinghouse Ballasts. These ballasts are your assurance that lamps will deliver their *full rated life*—their *full light output*—with voltage and current *matched to the requirements.*

See a Westinghouse Sales-Engineer today. Send for Booklet B-4005-A, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-04267

Westinghouse INDUSTRIAL FIXTURES

▲ Mention Item **NED-3635** when writing ▲

For IMMEDIATE DELIVERY of R-B INTERCHANGEABLE PUNCHES and DIES

WRITE, WIRE or CALL ONE OF THESE R-B REPRESENTATIVES

NEW YORK CITY 12
Acme-Danneman Co., Inc.
203-205 Lafayette St.
Canal 6-1759, 6-1760

PHILADELPHIA 20
Paul J. Fleming
5918 N. Seventh St.
Waverly 4-1608

DAYTON 5
H. E. Scholey
2603 N. Main St.
Taylor 1244

CHICAGO 6
George A. Rieke Company
549 W. Washington St.
Dearborn 6727-6728

MILWAUKEE 11
Walter C. Weigle
1909 E. Kenwood Blvd.
Edgewood 2359

ST. LOUIS 3
Mill Supply & Machinery Co.
2910-12 Washington Ave.
Franklin 6811

LOS ANGELES 11
Peck Steel & Die Supply
4436 Long Beach Avenue
Century 2-9291

No delays when you want punching economy! Complete information on Allied's "one-stop service" in 48-page catalog. Write for your copy.

ALLIED PRODUCTS CORPORATION
Department 31 • 4610 Lawton Ave. • Detroit 8, Michigan

▲ Mention Item **NED-3636** when writing ▲

New Literature – Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Insulated Piping Systems

Ric-wiL Co.—34-page illustrated bulletin No. 480-2 deals with such subjects as layout of insulated piping route, methods of estimating steam loads, steam flow charts and tables, properties of steel pipe, properties of saturated steam and related topics. Actual drawings used in wide variety of insulated piping installations are shown in 40-page bulletin No. 480-3.

▲ Mention Item **NED-3637** when writing ▲

Linear Motion Bearings

Thomson Industries, Inc.—12-page illustrated bulletin provides data on ball bearings for linear motion, seals, lubrication and installations. Suggested mounting arrangements and details are given for calculating load capacity and life expectancy.

▲ Mention Item **NED-3638** when writing ▲

Drop Forgings

Drop Forging Association—60-page illustrated booklet entitled "Metal Quality" describes development of metal quality progressively throughout hot working operations, from blast furnace to finished forging. Proper selection of metals for forgings, steps in making forging dies and forging procedures for various kinds of parts are outlined.

▲ Mention Item **NED-3639** when writing ▲

Low Pressure Cylinders

Hanna Engineering Works—20-page illustrated catalog No. 236 on low pressure pneumatic cylinders includes dimensional drawings, construction features and capacities of all standard sizes and gives information on mounting brackets and cylinder cushions as well as cylinder selection data.

▲ Mention Item **NED-3640** when writing ▲

Automatic Controls

Mercoid Corp.—64-page illustrated catalog No. 60B deals with automatic controls for heating, air conditioning, refrigeration and various types of industrial applications. Controls are equipped with Mercoid hermetically sealed mercury switches.

▲ Mention Item **NED-3641** when writing ▲

Transmission Equipment

Patron Transmission Co.—192-page illustrated Forty-Niner catalog supplies complete data including prices on over 5000 items in company's line of power transmission equipment and conveyor supplies.

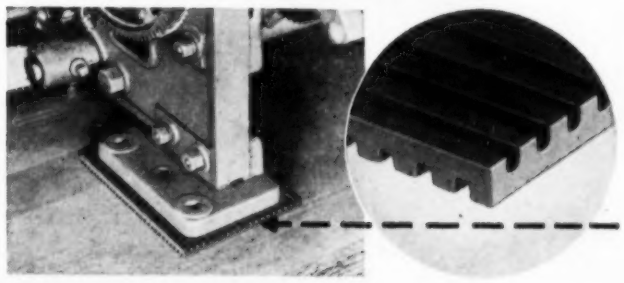
▲ Mention Item **NED-3642** when writing ▲

Condensation Preventive

J. W. Mortell Co.—30-page illustrated pocket-sized handbook is descriptive of Industrial NoDrip insulation type plastic coating which prevents condensation drip from metal, concrete, brick, wood, plaster or composition surfaces. Available in 1, 5 and 55-gallon drums, material can be used effectively in atmospheric temperature range of subzero to 130° F.

▲ Mention Item **NED-3643** when writing ▲

Take the "Wear and Tear" out of VIBRATION



... with ISOMODE* PADS

Isomode Pads are effective under practically all machines. The more machines they're used under, the more noticeable the improvement. No nerve-wracking jars! Less noise! You protect the accuracy of your machines, reduce maintenance, save on building upkeep costs. In most instances, you eliminate the need for special bases or bolting to the floor!

Use Isomode Pads under *any* weight of machinery. A 30,000 pound press? Pads are ideal! A 50 pound bench tool? Pads do a job there, too! Merely cut them to area required from standard sizes up to 18" x 18" with ordinary hand shears.

Why not try some under a troublesome piece of equipment? You'll see for yourself the same outstanding performance that is satisfying users *in over 5000 installations!* Send for detailed bulletin which shows how easily you can install Isomode Pads.

*Trade Mark Reg. U.S. Pat. Off.

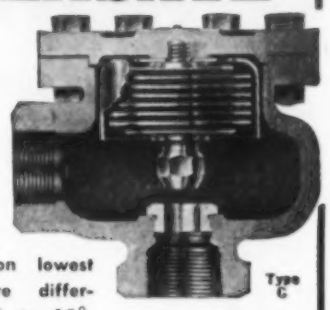
THE MB MANUFACTURING COMPANY, INC.
1066 State St., New Haven 11, Conn.

▲ Mention Item **NED-3644** when writing ▲

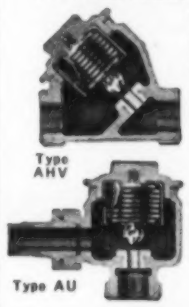
Nicholson Steam Traps

STOP BACK-UP of CONDENSATE

Operate on Lowest Temperature Differential



Repeated comparative tests by large trap users show that Nicholson traps operate on lowest temperature differential: 5° to 15°, depending on trap size and steam pressure. Plant records show that, by preventing back-up of condensate, they have increased production of cooking kettles as much as 30%. Also prevent corrosion or damage to thin gauges. 5 types for every application. Size ¼" to 2"; press. to 225 lbs. BULLETIN 1047.



W. H. NICHOLSON & CO. 162 OREGON STREET WILKES-BARRE, PA.

Valves ★ Traps ★ Steam Specialties

▲ Mention Item **NED-3645** when writing ▲

FOR EFFICIENCY AND SAFETY
THE "MARK-RITE"

Let "Mark-Rite," the easy to operate portable paint marker, lead the way to increased efficiency and safety in and around your plant.

Check these important features: Aluminum construction • Gravity feed • No hose or electrical connections • Self-cleaning valves • No straining of paint necessary • Paints lines in 2", 3", or 4" widths • Operates with unskilled labor • Fully guaranteed.

Power models also available

Write for illustrated folder and prices

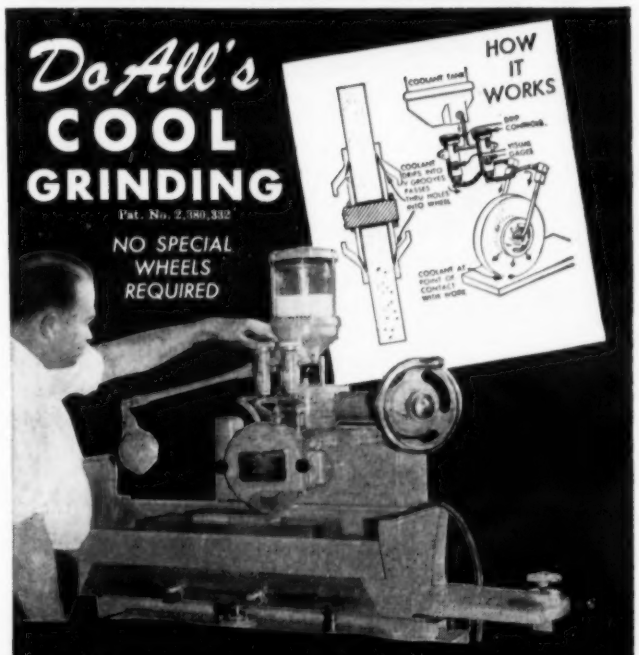
UNIVERSAL MFG. AND SALES COMPANY
8716 S. SANTA FE AVE., SOUTH GATE, CALIF.
Eastern Factory Branch: 1426 "K" St., N.W., Washington 5, D.C.

▲ Mention Item **NED-3646** when writing ▲

DoAll's COOL GRINDING

Pat. No. 2,380,332

NO SPECIAL WHEELS REQUIRED



DoALL's exclusive Cool Grinding Unit on precision surface grinders produces better finish, requires fewer wheel dressings and assures longer wheel life. Keeps the work as cool as any coolant and gives better work visibility. Eliminates the need of coolant pumps and dust collectors for most work. Minimizes cracking, skin softness and warping. Secret of this new process is that coolant passes right through the wheel—fed into wheel near center and drawn to edge by centrifugal force as shown in above drawing. DoALL Precision Surface Grinders—6 models—are hydraulically operated. Write for data.

The DoALL Co. DES PLAINES, ILL.

▲ Mention Item **NED-3647** when writing ▲

CHESTER HOISTS
for Lower Costs

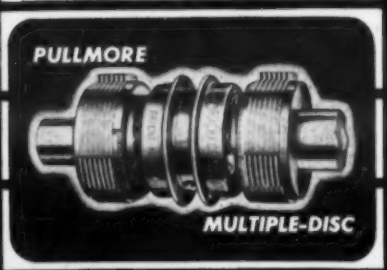
Chester Spur Geared Chain Hoists, made by the Hoist Division of The National Screw & Mfg. Co., are expertly designed and built to give you rapid lifting and lowering with utmost economy. They are strong, safe and dependable. *Timken Bearings* reduce friction on all working parts and insure smooth operation and long life. A retaining brake holds the load at any position.

In sizes from ¼ ton to 40 tons, this complete line of cost-saving hoists is furnished in many adaptations, such as Extended Hand Wheel, Twin Hook, Army and Clevis Connected Types. *Chester Trolleys* are furnished in either plain or geared types, with either Timken Roller or plain bearings.

THE NATIONAL SCREW & MFG. CO.
Chester Hoist Div. • Lisbon, Ohio

▲ Mention Item NED-3651 when writing ▲

ENGINEERED To The Job



ROCKFORD CLUTCHES

A growing number of manufacturers depend on ROCKFORD for the solution of their CLUTCH problems because they appreciate our policy of working closely with their engineering departments in all phases of their power transmission and control developments. ROCKFORD cooperates with them to produce CLUTCHES and POWER TAKE-OFFS *that fit their specific needs.* ROCKFORD has the required CLUTCH experience, engineering skill and manufacturing facilities to make just the *right* application for each job. Send us a print showing your product's requirements for a ROCKFORD *engineered to the job* CLUTCH or POWER TAKE-OFF recommendation.

ROCKFORD CLUTCH DIVISION
BORG-WARNER
312 Catherine Street, Rockford, Illinois

▲ Mention Item NED-3652 when writing ▲

for low cost

versatility

Saginaw Wheels, Casters and Conveyor Parts

Improve product efficiency, cut labor costs, increase plant productivity, smooth out material flow--with Saginaw Products!...Now available in a complete range of sizes and specifications to fulfill your individual requirements!

FREE! Comprehensive, illustrated data on super-smooth pneumatics! Write for your Saginaw WHEEL and CASTER BULLETIN Today!

SAGINAW PRODUCTS CORP.
106 RIVER • SAGINAW, MICHIGAN

▲ Mention Item NED-3653 when writing ▲

New Literature – Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Bearing Sizes

Bound Brook Oil-Less Bearing Co.—24-page illustrated booklet "Size List No. 21" contains complete listing of all types and sizes of porous bronze and sintered iron bearings which can be made, without tooling charge, from dies now on hand.

▲ Mention Item NED-3654 when writing ▲

Forced Air Space Heater

Dravo Corp.—12-page illustrated bulletin No. 523 describes Counterflo forced air space heater available in standard output capacities from 400,000 to 2,000,000 British thermal units per hour. Heater is direct-fired by oil or gas and can be supplied with combination burners for quick conversion from one fuel to the other.

▲ Mention Item NED-3655 when writing ▲

Silicone Manufacturing Facilities

General Electric Co., Chemical Dept.—12-page illustrated bulletin No. CDC-102 is descriptive of company's new silicone manufacturing facilities at Waterford, New York. Included are brief descriptions of outstanding characteristics and principal uses of silicone resins, oils, greases, rubber and water repellents.

▲ Mention Item NED-3656 when writing ▲

Lumber Fabrication

Sterling Lumber & Supply Co.—8-page illustrated folder deals with hardwood and softwood pallets, pallet replacement parts, heavy export crates and boxes, prebored lumber and blocks, special cut lumber, shipping trays and skids, special bracing blocks, sectional bins, motor mounts, packaged lumber units and institutional and building millwork available by truck or carload.

▲ Mention Item NED-3657 when writing ▲

Hydraulic Surface Grinders

DoALL Co.—8-page illustrated catalog contains specifications of six models of hydraulic surface grinders for toolrooms and production lines. Construction of grinders provides predetermined precision for finish, flatness, size and parallelism and also squareness and parallelism when using sides of wheel.

▲ Mention Item NED-3658 when writing ▲

Integral Horsepower Motors

Reliance Electric & Engineering Co.—Construction features and mounting dimensions of integral horsepower motors available in protected open, splashproof, totally enclosed, fan-cooled, explosionproof and corrosion-resisting types are explained in 8-page illustrated bulletin No. B-2101.

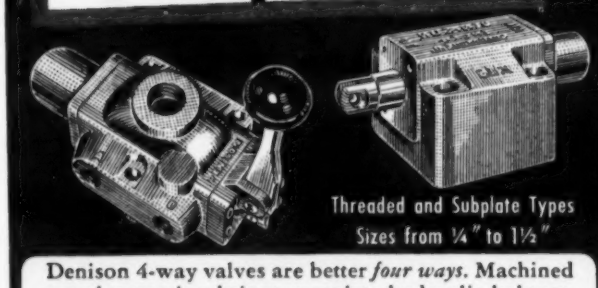
▲ Mention Item NED-3659 when writing ▲

Battery Chargers

Electric Products Co.—Single-circuit battery charger for battery-powered industrial trucks is described in 4-page illustrated bulletin No. B.221. Designed for on-the-spot battery charging, unit requires 8 to 9 hours to energize lead batteries and 7 hours for Edison batteries.

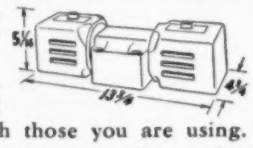
▲ Mention Item NED-3660 when writing ▲

LONGER SERVICE is built into DENISON hydraulic 4-way VALVES



Threaded and Subplate Types
Sizes from ¼" to 1½"

Denison 4-way valves are better *four ways.* Machined annular porting brings complete hydraulic balance. Full-diameter, three-lobe spools assure maximum strength with least distortion. Metal-to-metal mounting contacts eliminate gaskets. Extra rugged for heavy-duty use at 5000 psi.



COMPACT! Check size of Denison's ¾" double-solenoid valve shown at right, with those you are using.

COMPARE Denison Valves with any on the market today—for space-saving size; efficiency; rugged construction; low cost. Send for bulletins VD-1 and VD-2!

The DENISON Engineering Co.
1151 Dublin Road, Columbus 16, Ohio

DENISON HydrOILics

▲ Mention Item NED-3661 when writing ▲

STANDARD IRONBOUND HANDLING UNITS FOR MANY JOBS

●Ironbound "stock" units are built to meet many requirements. If a stock unit will not solve your problem, an Ironbound engineer is ready to solve it for you with a specially designed unit. Ask for General Catalog GP-7; Roll handling bulletin RT-8.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

Ironbound

SKIDS • SEMI-LIVE SKIDS
DOLLIES • FLOOR TRUCKS

▲ Mention Item NED-3662 when writing ▲

One Metron HAND TACHOMETER

measures
20 to 100,000 RPM!
or
2 to 10,000 FPM!

LINEAR or rotational speeds that creep or streak – measure them all to 1% *accuracy* (or better!) with a single Metron Hand Tachometer! Exclusive electric, non-generator type circuit is unaffected by over-speeding, magnetic fields, or vibration. Instant calibration. No variation in accuracy after long, hard use.

Other Metron Hand Tachometers in single or multiple ranges; with or without high and low speed range multipliers; types for measuring to 1/4% accuracy.

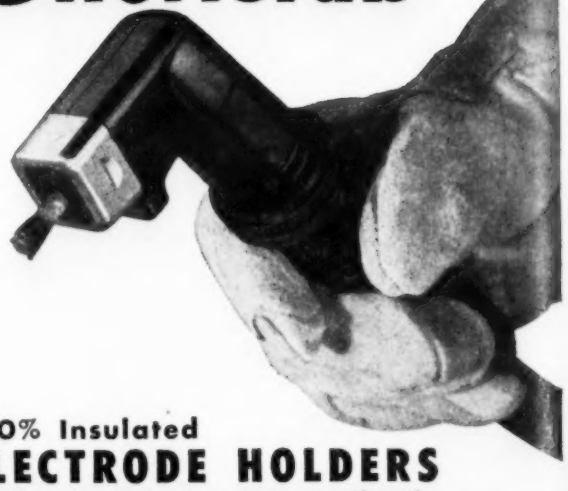
Get complete data *now* from METRON INSTRUMENT COMPANY, 436 Lincoln Street, Denver 9, Colorado

Metron Products:
Tachometers
Comparators
Speed Changers

Metron INSTRUMENTS FOR PRECISION MEASUREMENTS

▲ Mention Item NED-3663 when writing ▲

BERNARD "Shortstub"



100% Insulated
ELECTRODE HOLDERS
with Electrode Extending Jaws To Conserve Electrodes

SHORTSTUB Electric Holders are unique in that the jaws are streamlined and projected 2 inches in the line in which the electrode is directed, thus a 2 inch addition is actually spliced to the end of every electrode which substitutes for the 2 inch stub that otherwise is wasted. The welding operator naturally deposits the Total Fluxed Portion of every electrode. Obviously more welding is obtained for every dollar that is spent for electrodes . . . electrode changes are fewer and production as a whole is increased.

SHORTSTUB holders are really safe. They are completely covered with insulation and the "Lifeguard" insulation which covers the jaws has the highest heat resisting characteristics ever developed to withstand the heat of the arc . . . it is tough to withstand hard use.

All current conducting parts are composed of high strength copper alloy for high conductivity to give hundreds and hundreds of hours of trouble free, comfortably cool operation.

WRITE FOR DESCRIPTIVE FOLDER • DEALER INQUIRIES INVITED

BERNARD WELDING EQUIPMENT CO. • 741 EAST 71ST ST., CHICAGO 19, ILL.

▲ Mention Item NED-3664 when writing ▲

MAKE TOUGH METAL CUTTING JOBS EASY

INSIST ON STAR BLADES

Want to zip through the toughest metal cutting jobs in jig time? Of course, who doesn't?

Then be sure you're using a Star hack saw blade. They're designed and made to make cinches out of tough cuts. Only the finest steel is used — automatic machines shape teeth precisely — special heat treatment provides extra blade strength. As a result you get a faster, cleaner cutting blade that lasts longer.

A complete Star line is made for all types of metal and plastics cutting and for either hand or power equipment. Ask your dealer to show you Star.

AT YOUR DEALER'S NOW!

Your free copy of Star's booklet, "METAL CUTTING" and the new Star Wall Chart. Ask for these helpful guides to better selection, use and care of your hack saw equipment.

CLEMSON

CLEMSON BROS., INC.
MIDDLETOWN, N. Y.
Manufacturers of Hack Saw Blades and Frames, Metal Cutting Band Saw Blades and the Clemson Model E-17 Lawn Machine.

4641

▲ Mention Item NED-3665 when writing ▲

FAIRFIELD

NO MATTER how special your requirements may be, Fairfield can help you solve your gear production problems efficiently . . . and economically. Fine manufacturing facilities, large production capacity, and some twenty-eight years of engineering experience have made Fairfield a leader in supplying gears for tractors, trucks, buses, machine tools, engines, and all kinds of automotive, aviation, agricultural, construction, marine, and industrial equipment. CHECK WITH FAIRFIELD ON YOUR NEXT GEAR REQUIREMENTS.

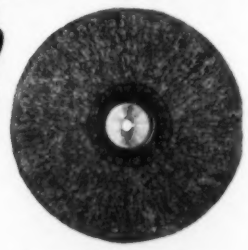
FAIRFIELD
MANUFACTURING CO.
317 South Earl Avenue
Lafayette, Indiana

For FINE GEARS

▲ Mention Item NED-3666 when writing ▲

PITTSBURGH PLATE GLASS CO. PERFECT BALANCE WIRE BRUSHES

...do your job RIGHT!



Wire Cup Brushes

Recommended by manufacturers of portable pneumatic grinders and electric drills, these brushes are real labor savers! They'll save money for you on large repainting operations because they completely remove old paint, scale, rust, fast!

Basic Section Brush

Tests prove these brushes to have fastest cutting qualities, longest life. Available with standard, medium or heavy fill, they can be used singly or in multiples. Perfect balance, all-purpose brush.

● Pittsburgh's engineers are always experimenting on various materials to determine best cutting qualities with longest life. See your Pittsburgh engineering representative for any type of power-driven brushes.

Power Driven BRUSHES

BRUSHES · PAINT · GLASS · CHEMICALS · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

▲ Mention Item NED-3667 when writing ▲

New Literature — Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Fractional Horsepower V-Belt Drives

Browning Mfg. Co.—40-page illustrated catalog V-147-G contains specifications and application data on A and B-section single and dual V-belt sheaves and belts for fractional horsepower drives. Described are FHP sheaves with split taper bushings, pressed steel and die-cast sheaves, flexible couplings, step pulleys and variable pitch diameter sheaves.

▲ Mention Item NED-3668 when writing ▲

Dial Scales

Howe Scale Co.—6-page illustrated folder No. 666 is descriptive of line of Tape-Drive dial scales combined with basic Howe understructures ranging from small bench models to massive tank and motor truck scales.

▲ Mention Item NED-3669 when writing ▲

Wire Rope & Chain Fittings

Thomas Laughlin Co.—Illustrated catalog-data book of industrial and marine fittings lists complete line of drop-forged wire rope and chain fittings. Strength and dimension tables are included to help engineers, designers, builders and riggers to select proper combination of fittings for any industrial job.

▲ Mention Item NED-3670 when writing ▲

Power Lift Trucks

Revolvator Co.—Go-Getter power lift trucks available in high and low lift, fork, pallet and platform types are explained in 4-page illustrated bulletin No. 166. Equipped with 6-cell, 13-plate battery, lift trucks cover all ordinary requirements of factory and warehouse for moving, lifting, piling and loading.

▲ Mention Item NED-3671 when writing ▲

Cellulose Gum

Hercules Powder Co.—16-page illustrated booklet contains information on properties and uses of Hercules CMC cellulose gum for use wherever water-soluble gum is needed for viscosity control, for emulsion stabilization, as ointment base, as water-soluble film-former or as suspension agent.

▲ Mention Item NED-3672 when writing ▲

Industrial Gloves

Keller Glove Mfg. Co.—4-page illustrated folder describes Kel Nit work gloves available in knit wrist, band top and gauntlet styles for men and women. Made in standard and extra large sizes, gloves are available in white, brown and buff. Heavy duty gloves and hand pads are covered.

▲ Mention Item NED-3673 when writing ▲

Constant Temperature Control

Emil Greiner Co.—Illustrated manual explains constant temperature control devices of specialized design for physical, chemical and biological laboratories. Component parts of temperature control assemblies are discussed regarding their basic construction, sensitivity, capacity and applicability to meet definite requirements.

▲ Mention Item NED-3674 when writing ▲

Foundation For Safety
AW SUPER-DIAMOND FLOOR PLATE

Pattern Shown 1/2 actual size

Write for informative 16 Page Catalog. It gives maximum sizes and other information.

AW SUPER-DIAMOND
FLOOR PLATES THAT GRIP L-35*

A Product of ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

▲ Mention Item NED-3675 when writing ▲

NOW you can dismantle the Hansen Tacker in a split second. Hansen's exclusive "take-up jaw" lets you snap it open or shut instantly. Special Channel Cleaner ejects all debris from the channel. An overhaul in less than 60 seconds! Learn the many other advantages of a Hansen Tacker. REQUEST FOLDER

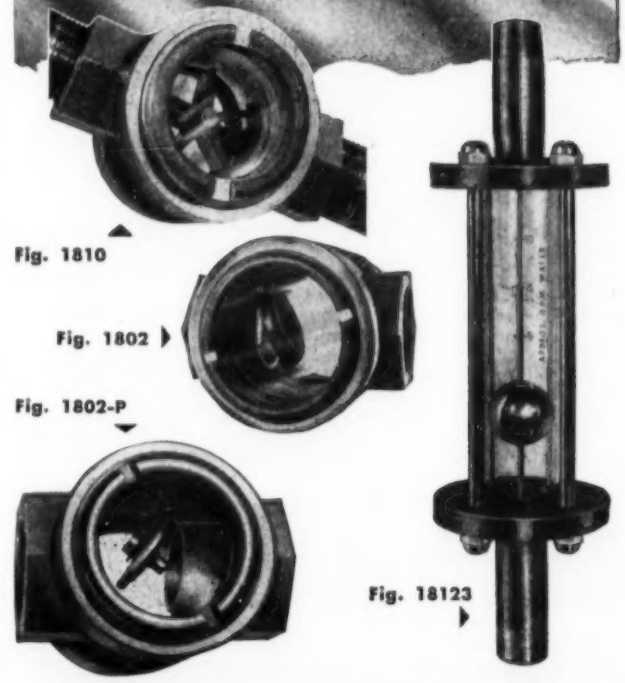
A. L. HANSEN MFG. CO.
5164 Ravenswood Ave.,
Chicago 40, Ill.

Open and Shut HANSEN FEATURE that means split second ON-THE-JOB INSPECTION

Hansen ONE-HAND TACKERS

▲ Mention Item NED-3676 when writing ▲

FLOW INSURANCE AT LOW COST



WITH an SK Flow Indicator in pipe lines, you can conserve power, prevent bearing damage and insure continuous operation. For, these indicators permit visual flow inspection — provide positive knowledge of flow conditions.

The SK Rotary Flow Indicator, Fig. 1810, in sizes from ½" to 2", for pressures up to 250 psi, indicates flow in either direction.

The SK Flapper-Type Flow Indicator, Fig. 1802, in sizes from ½" to 3", with a Double Sight-Glass for better visibility on dark liquids, indicates flow by flapper deviation from a closed position.

The SK Check Valve Flow Indicator, Fig. 1802-P, in sizes from ¾" to 3", permits flow in one direction and acts as a positive seal against reverse flow in pressures up to 250 psi.

The SK Ball Flow Indicator, Fig. 18123, in sizes from ¼" to 2", with a guided brass ball, provides indication and permits approximation of rate of flow. Neoprene gaskets permit use of this indicator with lubricating oils and many solvents.

For prices in all sizes, write to—

Schutte and Koerting Co.
1177 THOMPSON STREET
PHILADELPHIA 22, PA.

▲ Mention Item NED-3677 when writing ▲

This table model shredding machine...

- Destroys confidential papers by turning them into unrecognizable shreds
- Turns your accumulated waste and confidential paper into needed packing material
- Requires no skill and little maintenance to operate
- Is noiseless, dustless and free from litter
- Delivers long, clean shreds
- Includes every necessary feature for safety, utility and versatility
- Will shred materials in various forms such as sheets, rolls, small pieces and crumpled waste . . . paper, foil, cellophane and many other materials

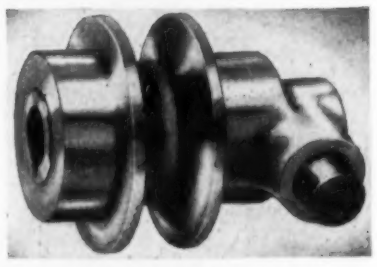
Send for prices and illustrated literature today!

THE *Shredmaster* CORPORATION
207 Willoughby Avenue, Brooklyn 5, N. Y.
A Division of Self Winding Clock Company

Mention Item NED-3678 when writing

INTRODUCING
NEW CONGRESS
V-Belt Clutch

IMMEDIATE DELIVERY
2½" "A" O.D. ½", ⅝", ¾", Bores
•
2½" "B" and 3", 3½" & 4" Sizes for "A" & "B" Belt to follow



POSITIVE ACTION:

The Congress clutch is positive, easy on the machine, absorbs shocks, trouble free, does not wear out the belt; simple as a light switch to operate—and priced low enough to be used on power lawn mowers, garden tractors, in home work shops and thousands of other applications.

Recommended for use on all gasoline engines and especially ideal for use with electric motors where it is desirable to start under no-load.

Write For Specifications and Prices

CONGRESS DIAMOND BORED DRIVES
3750 E. OUTER DRIVE, DETROIT 34, MICH.

Mention Item NED-3679 when writing

IT'S THE NEW **LEVA-DOCK***
Adjustable Ramp For Loading Docks

New hydraulic device keeps dock lined up with truck bed level

The Leva-Dock moves up and down with varying truck bed levels—permits fork lift trucks or other vehicles carrying heavy loads to move directly into trucks or trailers. Backed by Rotary's experience on 45,000 hydraulic lifts. Write for Catalog RE-135A.

ROTARY LIFT CO.
1017 Kansas
Memphis 1, Tenn.
*Reg. U. S. Pat. Off.

Mention Item NED-3680 when writing

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Saw & Drill Grinders

Black Diamond Saw & Machine Works—Two illustrated folders give data and prices of precision drill grinder for small gage and fractional drills, band saw filing and setting machine, circular saw and knife grinder and band saw guides.

Mention Item NED-3681 when writing

Chemical Packings

Crane Packing Co.—Illustrated booklet entitled "Packing for the Chemical Industry" covers packing requirements for practically all chemical applications. John Crane styles are fully explained, and recommendations are given for specific services and temperatures.

Mention Item NED-3682 when writing

Cement Paint

Medusa Portland Cement Co., Medusa Products Div.—8-page illustrated booklet tells why concrete, stucco and masonry surfaces need paint protection and how Medusa Portland cement paint and rubber-base coating are applied.

Mention Item NED-3683 when writing

Welding Fittings

Globe Steel Tubes Co.—Standard and extra strong elbows and return bends produced from seamless steel tubes are covered in 16-page illustrated looseleaf catalog No. 501. Complete dimensions and list prices are included.

Mention Item NED-3684 when writing

Fuse Switches

W. N. Matthews Corp.—12-page illustrated bulletin No. 103-S describes wood-housed Fuswitches in ratings of 50, 100 and 200 amperes, 5000 and 7500 volts. Porcelain-housed Fuswitches and cutouts are described briefly.

Mention Item NED-3685 when writing

Radiant Heaters

Edwin L. Wiegand Co.—Illustrated "Application Reports" contain data on Chromalox electric radiant heaters for glassless infrared drying, baking, preheating, curing, mass heating, skin drying, dehydrating and similar operations.

Mention Item NED-3686 when writing

Pneumatic Conveying Systems

Convair Corp.—8-page illustrated bulletin No. 102 deals with complete pneumatic conveyor installations involving solid materials handling which include unloading, storage, weighing and batching, special preparations and treatments, mixing, drying, packaging and delivery.

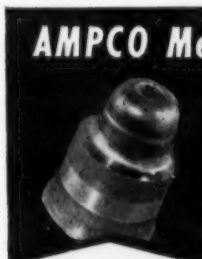
Mention Item NED-3687 when writing

Electric Hoists

Harrington Co.—8-page illustrated bulletin No. P-53 and supplementary price list explains features of Bearcat electric hoists equipped with ¼, ½ or ¾-horsepower, single or polyphase motors of cast rotor, induction type.

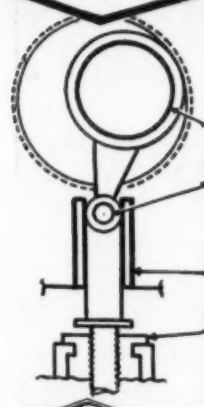
Mention Item NED-3688 when writing

AMPCO Metal can really take it!



Exceptional strength . . . high fatigue limits . . . wear resistance and resistance to impact—
just the material for your tough jobs!

in the punch and in the press*



Possibly you don't make or use heavy presses. But probably you *do* have jobs for Ampco Metal — tough jobs where you need the same superior performance that Ampco Metal gives in these press applications.

*Ampco Grade 24 outlasts the best steel 10 to 1 in the extrusion punch itself.

1. Ampco Grade 12 Bushings, centrifugally cast, provide a wear-resistant eccentric bearing lining that gives maximum heavy-duty service.
2. Ampco Grades 18, 18-23, or 20 centrifugally cast bushings withstand extremely heavy loads without mushrooming. (Ampco field engineers will be glad to recommend proper grade to be used.)
3. Ampco 8 Sheet used as liners (gibs) give maximum life with minimum wear under varying conditions of load, speed, etc.
4. Ampcoloy E-123 (centrifugally cast) affords up and down adjustment of shutting height without galling and with minimum wear.

See your nearby Ampco engineer for recommendations on *your* specific needs. Write for our FREE literature giving complete information.

AMPCO METAL, INC. G-2B
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West of the Rockies, it's the Ampco Burbank Plant, Burbank, Calif.

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CHROMALOX Immersion Heaters are especially designed for portable use in drums and tanks. They give the temperatures needed for efficiently melting coconut oils, lard, tar and similar viscous fluids. When put into drums the Heaters melt their way through contents without tilting. Units can easily be moved from one drum or tank to another. Ratings: 1100 to 4400-watts.

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Send for the free booklet "100 Ways to Apply Electric Heat" which illustrates Chromalox Heaters "at work."

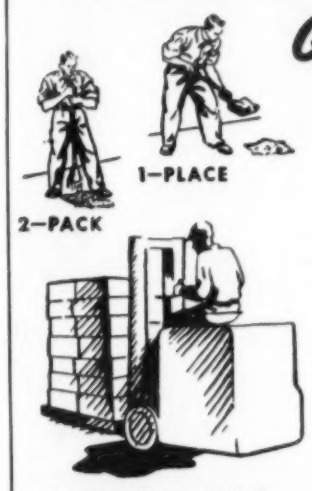
EDWIN L. WIEGAND CO., 7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See other advertisement on page 4
CHROMALOX 19-02
ELECTRIC HEAT FOR MODERN INDUSTRY

Mention Item NED-3690 when writing

QUICK-PERMANENT

CONCRETE FLOOR REPAIRS!

Quick-Floor



FOR INSTANT . . . PERMANENT PATCHES, repairs, etc. . . . just PLACE and PACK "QUICK-FLOOR" . . . it's done . . . complete and ready to use . . . without delay or interference . . . "QUICK-FLOOR" IS PERMANENT.

MANY 10 YEAR OLD, HEAVY DUTY, INSTALLATIONS still in good shape . . . this means the ANSWER to Concrete Floor defects is . . . "QUICK-FLOOR" . . . the original patcher (and surfacer) since 1938.

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Results *Unconditionally* Guaranteed

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SOLENOID OPERATED
VICKERS *Directional* CONTROL VALVES
FOR HYDRAULIC (OIL) SYSTEMS

Available in a range of piping sizes from ⅛" to 1¼", for gasket or subplate mounting. Larger sizes to 3" are furnished with flanged connections.

Valving features provide two, three, and four-way valve action, arrangement for direct solenoid operation (small sizes), and pilot operated solenoid control in combination with spring actuation to suit many hydraulic control system requirements.

WRITE FOR Bulletin 48-27

VICKERS Incorporated
Division of The Sperry Corporation
1456 OAKMAN BLVD. • DETROIT 32, MICH.

Mention Item NED-3692 when writing

GENERAL CONTROLS
SILENT
Electric
Diaphragm
GAS VALVE

Designed for reliable control of natural, manufactured, mixed and liquefied petroleum gases to space and unit heaters, central, floor and wall furnaces and boilers.

Designated the B-50, this valve has no packing glands or bellows to impede operation. Low current consumption of 5 watts. For low or line voltage applications. Standard model or manual opening model with or without electric trip. Envelope size of valve makes it easy and simple to adapt to any gas-fired heating installation. Packless construction. All body parts die formed aluminum of high density and tensile strength.

Also available in packaged sets which include the new B-50 valve, a compact, modern, snap-action Thermostat (stainless cover with ivory plastic base, extending only 1" from wall), a 9 V A Transformer and thermostat cable.

Many leading furnace manufacturers specify GENERAL CONTROLS as standard equipment and all gas-heating appliances are available with these outstanding control units.

If they're GENERAL CONTROLS, they're the BEST

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.

Manufacturers of Automatic Pressure, Temperature, Level & Flow Controls

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57-4

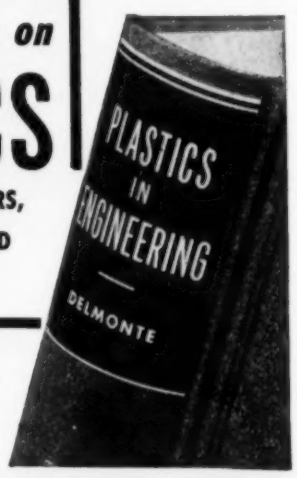
▲ Mention Item **NED-3693** when writing ▲

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ Mention Item **NED-3694** when writing ▲

NEW Information on
PLASTICS
FOR DESIGNERS, FABRICATORS, AND EVERYONE INTERESTED IN PLASTICS . . .



• Here's important new information on plastics for every designer, every fabricator, user and student of plastics . . . 656 pages . . . 168 illustrations . . . of authoritative plastics information. This complete, revised, third edition of "Plastics in Engineering" by John Delmonte will alert you to the wide possibilities offered by plastics in your field. It tells you all about the many different plastics available: How strong they are—for what uses they are best suited—how to design plastic parts—how they are molded, extruded, laminated, cast—how much heat they will stand—how to guard against failures—how to machine plastics—and other vital factors that are so essential to satisfactory plastics performance.

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Completely Revised
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Enclosed is $10.00* for my copy of "Plastics in Engineering".
Name
Address
City State
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▲ Mention Item **NED-3695** when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Maintenance Brushes

United Shoe Machinery Corp.—18-page illustrated catalog covers more than 250 industrial maintenance brushes of 21 types. Listed are paint, varnish and calcimine brushes and many types of sweeping and cleaning brushes. Information is included on care and cleaning of all brushes.

▲ Mention Item **NED-3696** when writing ▲

Steel Mesh

Joseph T. Ryerson & Son, Inc.—8-page bulletin gives engineering data including load deflection, air flow comparison and free openings of both standard and flattened mesh types of expanded steel. Sizes, dimensions, weights and typical applications of expanded metal grating are covered.

▲ Mention Item **NED-3697** when writing ▲

Cartridge Demineralizer

Barnstead Still & Sterilizer—6-page illustrated folder No. 120 furnishes data on model BD-1 Bantam demineralizer which is suitable for applications requiring relatively small amounts of demineralized water and has flow rate of 5 to 8 gallons per hour.

▲ Mention Item **NED-3698** when writing ▲

Conveyor & Elevator Belting

New York Belting & Packing Co.—24-page illustrated manual lists engineering characteristics of all types of conveyor and elevator belts for such operations as coal and iron mining; food processing; packaging; and handling of grain, stone, sand, gravel, soda ash, finished cement, foundry sand and hot materials.

▲ Mention Item **NED-3699** when writing ▲

Jacks

Templeton, Kenly & Co.—Simplex jacks and related equipment for industrial, railroad, oil, building and bridge fields are described in 4-page illustrated bulletin No. 49. Also covered are Simplex-Jenny center hole hydraulic pullers, Util-A-Tool, jack supports of aluminum alloy and drop-forged trench braces and timber braces.

▲ Mention Item **NED-3700** when writing ▲

Dehumidification Equipment

Pittsburgh Lectrodryer Corp.—Illustrated bulletin No. 216 explains necessity of eliminating high humidities and moisture contamination in manufacturing processes where wet air endangers chemical processes, materials in storage and production processes. Installations of Lectrodryer equipment in wide range of industries are shown.

▲ Mention Item **NED-3701** when writing ▲

Floor Maintenance

Breuer Electric Mfg. Co.—34-page illustrated booklet entitled "The Tornado Method" describes floor machines and accessories and gives specific instructions for removing old finishes, bleaching, sanding, sealing, waxing, polishing and subsequent maintenance for each type of floor.

▲ Mention Item **NED-3702** when writing ▲

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Valuable CATALOG!
Complete Information on
WASHERS and STAMPINGS!

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The World's Largest Producer of Washers
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Blind-fastening, Plastic Spring-Locks improve bracket appearance, cut costs

Where are you using a metal or plastic bracket now that could just as easily be made in the form of a head for a Simmons plastic Spring-Lock, thus eliminating screws and rivets, nuts and bolts, and cutting deep into assembly time and costs?

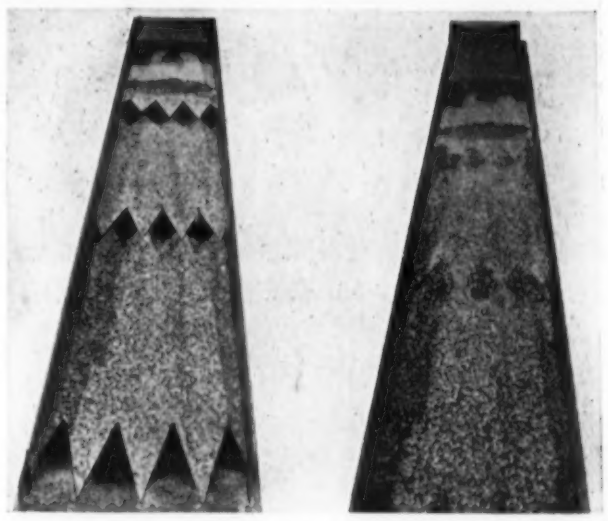
Simmons molds the plastic to conform to your dimensional, strength, and color specifications. The resulting bracket is attractive, inexpensive, and easy to install. Spring-Locks provide for blind installation—lock or unlock with a quarter turn. Millions are now in use as shelf supports, decorative knobs, dashboard plugs, etc. Design engineers marvel at their utility, flexibility and simplicity. You will, too. Send for free samples today.

Any type head can be molded for Simmons plastic Spring-Locks—replacing metal parts and cutting material and assembly costs.

SIMMONS FASTENERS
SPRING-LOCK • QUICK-LOCK • LOCK-NUT
Simmons Fastener Corp., 1757 N. Broadway, Albany 1, N. Y.

▲ Mention Item **NED-3704** when writing ▲

MIX-R-STEP CONVEYORS



Designed with series of stepped plates—produce a side slip as material falls from one step to next. Ideal for mixing operations and accurately feeding two or more free-flowing materials. No degradation of material—quality of product maintained—no fines produced. Applied successfully to indirect type of vibrating coolers and dryers. Catalog No. 804

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952 N. Fourth St., Columbus 16, Ohio

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RECTIFIER POWER SUPPLY . . . FILTERED AND CLOSELY REGULATED

. . . WITHIN ± 1 VOLT OF PRE-SET VALUE!

This new portable rectifier equipment . . . PEC 272 . . . is designed to give you accurate control of regulated and filtered power supply. With AC input voltage variations of ±5%, and DC load variations from 5 to 50 amperes, it maintains DC voltage within ±1 volt of pre-set value, and holds AC r.m.s. ripple under 0.15 volts. Design features include a heavy duty selector switch for selection of high range—22 to 30 volts, or low range—11 to 15 volts, plus potentiometer for close adjustment within each range. Conservatively rated selenium rectifiers are capable of delivering 50 amperes continuously, and up to 200 amperes during momentary overloads for motor starting and similar service. Operates in ambient temperatures up to 40°C. and under normal atmospheric conditions. Convection cooled. Write for complete details.

POWER EQUIPMENT Company
Specialists in Controlled Rectifiers Since 1935
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Marvinol® vinyl resin offers

- superior characteristics
- faster processing

Plastics products based on Marvinol VR-10 have superior dimensional stability under heat and time . . . greater flexibility at low temperatures. Marvinol offers extra toughness and dryness with a surface that's pleasant to touch. It can be calendered, extruded, injection molded or dispersed for coatings or slush molding.

Marvinol saves processing time. It has shorter pre-mix, open mill and Banbury cycles . . . faster extrusion.

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Resins, Plasticizers and Stabilizers Produced by the Chemicals Division of
THE GLENN L. MARTIN COMPANY • AN INTERNATIONAL INSTITUTION
"Better Products, Greater Progress, Are Made by Martin."

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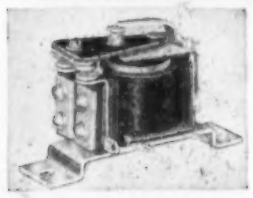
FOLLOW THE LEADER

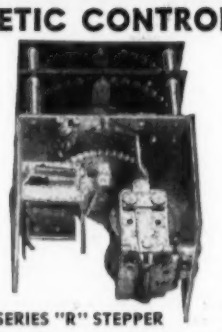
of ELECTRO-MAGNETIC CONTROL



SERIES 220 RELAY

This small relay is capable of handling 20 amps at 220 v., the leader in its size and price field for inexpensive, compact, heavy current control. A very widely used small relay for industrial control such as welding machines, x-ray, motor starters, etc.

Write—tell us your control problem. Get specific recommendations.



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Used for cycle control requiring continuous sequence repetitive operations; to remotely select and control multiple circuits; can be furnished to rotate continuously, reset automatically or to pulse both clockwise and counter clockwise on the same unit with up to 100 contacts on a disc.

GUARDIAN ELECTRIC
1626-F W. WALNUT STREET CHICAGO 12, ILLINOIS
COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

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SALVAGE RUSTY, IDLE EQUIPMENT WITH TASGON

The Quickest, Most Penetrating Rust Solvent on the Market

New shop equipment is expensive and deliveries are slow these days. Tasgon will restore your idle, rusty equipment to useful service quickly and at little expense. Tasgon works its way into the tightest joints . . . loosens moving parts which have become frozen with rust . . . dissolves gummed up paint, grease and grime . . . quickly cleans all metal surfaces.

Try a FREE CAN OF TASGON . . . Write today!

Samuel Cabot, Inc.
526 Oliver Bldg., Boston 9, Mass.

▲ Mention Item NED-3710 when writing ▲

New Literature – Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages.

Speed Reducers

Farrel-Birmingham Co. — 44-page illustrated bulletin No. 449 includes descriptions of single and double reduction types of speed reducers, specifications, horsepower rating tables, overhung load capacities, dimensions and weights.

▲ Mention Item NED-3711 when writing ▲

Lift Trucks

Barrett-Cravens Co.—28-page illustrated bulletin No. 4883 presents data on improved line of hand lift trucks in capacities from 1000 to 15,000 pounds. Features and specifications of hydraulic lift trucks are provided also.

▲ Mention Item NED-3712 when writing ▲

High Speed Steels

Jessop Steel Co.—14-page illustrated catalog describes analyses, heat treatments and applications of five most commonly used types of high speed steels. Charts showing hardness values after heat treatment are included.

▲ Mention Item NED-3713 when writing ▲

V-Belts

Manheim Mfg. & Belting Co.—Illustrated wall chart measuring 13½ x 21½ inches shows how to measure, uncouple, couple and install Veelos link V-belt. Designed especially for use on stock room and machine shop walls, chart includes V-belt comparison length table.

▲ Mention Item NED-3714 when writing ▲

Speed Changers

Allis Chalmers Mfg. Co.—12-page illustrated bulletin No. 20B6012-C is descriptive of Vari-Pitch speed changers for installation on metalworking machines, lathes, cutters, motors, refrigerator compressors, separators, kilns and conveyors.

▲ Mention Item NED-3715 when writing ▲

Permanent Magnets

General Electric Co.—Wide variety of stocked cast and sintered Alnico permanent magnets as well as special magnetic alloys are listed in 28-page illustrated catalog No. CDM-2A.

▲ Mention Item NED-3716 when writing ▲

Gas Burners

Surface Combustion Corp.—130-page illustrated catalog presents data on more than 60 types of industrial gas burners in 600 sizes. High and low pressure equipment for all common gaseous fuels is covered.

▲ Mention Item NED-3717 when writing ▲

Localized Lighting

Adjustable Fixture Co.—14-page illustrated catalog No. 65B describes Ajusco line of lighting fixture brackets from 8 inches to 10 feet in length and composed of one to four arms; wide variety of flanges, clamps and fittings and three types of reflectors.

▲ Mention Item NED-3718 when writing ▲

P&H ZIP-LIFT

Capacities to 2000 lbs.

ADD WORKING HOURS AT NO PAYROLL COST!

See how to cut handling time and costs. Ask for Bulletin H20-4!

By saving minutes on every lifting job, the Zip-Lift adds hundreds of extra working hours — *without additional payroll expense.* It reduces handling time around machines, along assembly lines, loading platforms, in laundries, bakeries, and in hundreds of other applications. The Zip-Lift is the fastest selling wire rope electric hoist on the market. It's low in cost.

P&H ELECTRIC HOISTS
4537 West National Avenue
Milwaukee 14, Wis., U. S. A.
HARNISCHFEGER CORPORATION

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Good for All Pressures... without Change of Valve or Seat

- Quicker Heating
- Small Size
- Light Weight
- One Moving Part
- Low Price

OVER 600,000 SOLD

Sold by nearly 150 Mill Supply Distributors throughout the U.S.A. See your supply house or write for Catalog T-1739

YARNALL-WARING CO., 131 Mermaid Ave., Phila. 18, Pa.

YARWAY IMPULSE STEAM TRAP

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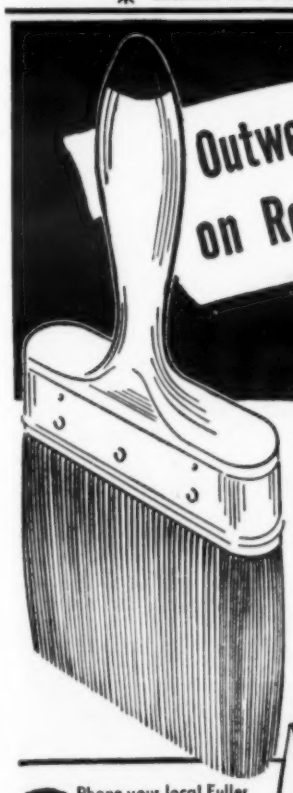

Outwear Bristle 4 to 1 on Rough Surfaces

NEW! FULLER NYLON PAINT BRUSHES

To provide a good, tough brush that will wear well on even the roughest painting surfaces, The Fuller Brush Co. has augmented its 100% pure bristle brushes with a new line of 100% NYLON brushes. Fuller research has developed the *correct* mixture of sizes, tapered and crimped nylon for excellent paint pick-up, retention and spreading qualities.

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Colson Lift-Jack with Wood Skid.

Write Today For Free 56 Page Catalog

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT JACK SYSTEMS • INDUSTRIAL TRUCKS

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Severance CHATTERLESS TOOLS HIGH SPEED CARBIDE

Winning their way on job after job, they are carefully designed to preclude chatter and can be depended on to produce superior finishes.

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Severance CHATTERLESS COUNTERSINKS

STANDARD TYPE — Stocked in 13 diameters up to 2" and in 30°, 41°, 45°, and 60° angles (with C/L).

Sizes 1" and larger stocked also threaded for shanks — tapered or straight — in various sizes.

Use CARBIDE for tough jobs or high production.

HEAVY DUTY TYPE — Features larger shanks having a tang drive. Full range of sizes and angles.

MIDGET MILL GROUP — MIDGET MILLS, JUNIOR MILLS, LAB MILLS

HEADQUARTERS FOR COUNTERSINKS, REAMERS, SEATING TOOLS, and SPOTFACERS that preclude chatter

Severance CHATTERLESS BALL SEAT REAMERS

Standard and Heavy Duty Types 8 sizes each. Made also for shaped cavities — as ordered.

BALL NOSE DRILLS — In corresponding sizes hog out the stock for Ball Seat Reamers.

DEBURRING GROUP — 30° 45° INSIDE, 30° 45° OUTSIDE, HAND RADIUS

Severance TAPER REAMERS

• Faster cutting • Better finishing • Shear-cut teeth

Tapers up to 15° quickly supplied from stock — up to 1½" diameter x 2¾" long.

Unexcelled for holes having keyways, ports, splines, cross holes, etc.

TUBING GROUP — STANDARD Chamfering, SOLID (For Radius Up)

Write for Catalog 16

• SEVERANCE TOOL INDUSTRIES, Inc. •
761 Iowa Ave. Saginaw, Michigan

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NEW ALLEN Tru-Round Dryseal Pipe Plugs

100% PRESSUR-FORMD.

- NEVER OUT OF ROUND
- LEAKPROOF METAL-TO-METAL SEAL
- FULL STRENGTH SOCKET WON'T STRIP OR WEAR

Ideal for extreme pressure applications. For use with dry-seal taps. No sealing compound required. Pressur-Formd socket, unweakened by drilling and broaching, is stronger than the strongest key. Pressur-Formd burnished threads are nick and distortion-free, insure perfect thread contact, won't gouge softer metals. Perfect taper plus 360° roundness at both pitch and crest diameters assure accurate fit. Now available in 1/16" to 1-1/4" sizes. No increase in price.

Sold only thru leading distributors. Write direct for samples and engineering data on Allen Dryseal plugs, also Allen Tru-Round *Standard* Pressur-Formd plugs for a better seal in normal applications.

WARNING — Allen-TYPE screws aren't necessarily Allen-MADE. Be sure to get genuine Allens in the black and silver box.

ALLEN ALLEN HEAD
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.
NEW YORK CLEVELAND DETROIT CHICAGO LOS ANGELES

▲ Mention Item NED-3724 when writing ▲

MOTTO for 1949

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WINSMITH WHS SPEED REDUCERS **SPEED REDUCERS**

Back of the tremendous increase in demand for the MOST COMPLETE LINE OF SPEED REDUCERS FROM ANY ONE SOURCE" . . .

Economy

IN FIRST COST IN SPACE SAVING
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700, 800, 900 Helical ½ to 8 H.P.

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It covers our complete line . . . including the new, space-saving patented Winsmith Differential Speed Reducer. Gives ratios, horsepower, torque, overhung load capacities . . . Includes valuable reference material and comprehensive Engineering Section. For Catalog 148, please write on your letterhead stating position.

WINFIELD H. SMITH CORP.
A Speed Reducer for Every Application
22 Eden St. . . . SPRINGVILLE . . . Erie County . . . N. Y.

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May, 1949

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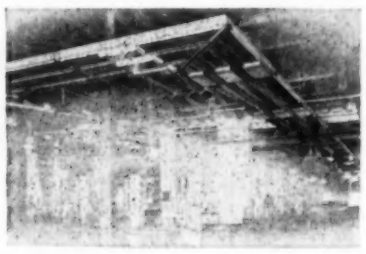

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1. **Lower "Installed Cost"**—You save expensive time and labor costs with LVD FLEX-A-POWER® when you install its pre-fabricated units. LVD is pre-engineered so that electrical performance can be *predetermined* before actual installation.
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PLAINVILLE, CONNECTICUT

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STOPS WEAR—Makes cylinders, tools, and other air operated equipment work better and last longer. Adds atomized oil to air stream. Ends worry about lubrication of inaccessible parts.

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1. Filters Air
2. Regulates Pressure
3. Lubricates

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Kester is constantly developing new and better flux-core solders. At present there are over 100,000 different types and sizes.

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NAME_____
ADDRESS_____

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PLAY IT SAFE
DURING THE WARM-WEATHER MONTHS OF THE YEAR WITH

Sponge-aire

INDUSTRY'S No. 1 SWEATBAND

A MONEY-SAVING SWEATBAND with an OUTSTANDING record of CONTINUOUS TWO-YEAR PERFORMANCE

It's whipped foam latex—the sweatband with the lasting coolness that reduces local heat and lessens the liability of excessive head sweat.

. . .the sweatband with the exclusive design that permits both pad and band to stretch in unison . . .the sweatband with the permanently smooth, toxic-free, non-irritating softness of fine texture, with the flexible toughness of design that defies wear.

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LOWER PRICES ON QUANTITY ORDERS

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Standard's Locknuts and Lockwashers are made to stay . . . you can't shake them loose. They're easy to apply, durable, and can be used again and again. Order Standard Locknuts, Lockwashers, and Adapters for your application of ball and roller bearings . . . S.A.E. Standard, A.B.E.C. Standard, Heavy-duty and Specials.

Locknuts in sizes N-00 through AN-40 . . . Multi-prong Lockwashers in sizes W-00 through W-40 . . . Adapter sizes 7-9-11-13 for shaft sizes $1\frac{3}{16}$", $1\frac{7}{16}$", $1\frac{15}{16}$", $2\frac{3}{16}$" . . . standard shaft collars, sizes ½", ⅝", ¾", ⅞" and 1". Order now from our complete stock.

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No. B-25. 0-25 inch pound. Length 12". Weight ¾-lb. Non-slip, non-chip, non-conductor handle.

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THE BEST AND NOTHING BUT THE BEST

The Best Answer To any Problem Involving

FULFLO COOLANTS . . .

COOLANT PUMPS

These precision-built pumps really go to town to keep tools and work at just-right temperatures to maintain longer life on tools . . . and exactly-as-desired production on work.

The really amazing variety of models—catalog or "made-to-order," runs the full range of any requirement. Pipe sizes from ⅜" to 1½".

Write on your letterhead for your personal copy: *THE FULFLO MECHANICAL DATA BOOK.*

THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

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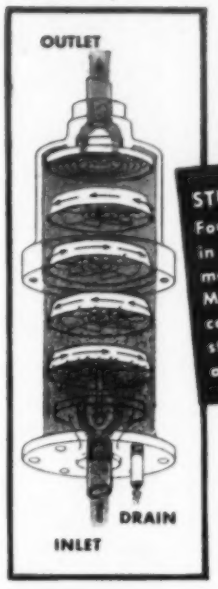
Why does an ARIDIFIER



REMOVE 92% OIL, WATER AND DIRT FROM GAS AND AIR LINES?

STUDY EXPLODED VIEW FOR ANSWER
Four multi blade rotors revolve at high speed in opposite directions under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing and pass into drain.

For paint and lacquer spraying, ceramic, sand blasting, air cleaning, etc. Easily replaces less efficient baffle type devices. Tell us details of your problem when you write for a catalog.

CAPACITY RANGE: AS LOW AS 7 CFM TO 17,000 CFM.

Made By The Manufacturers of Logan Lathes and Shapers.

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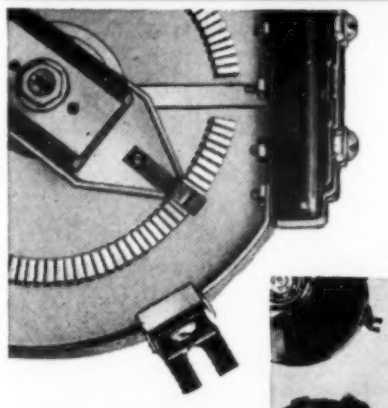
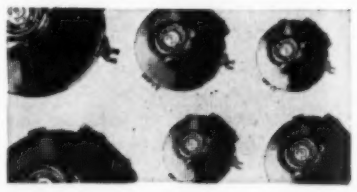


FINER, SMOOTHER CONTROL AND LONGER LIFE



—results of the solid rectangular contacts in these Ward Leonard Rheostats

The greater number of solid rectangular contacts gives Ward Leonard multi-step rheostats finer control, smoother contact arm operation. *Solid metal* contacts, connected to element by patented method and embedded in vitreous enamel—assure a mechanically and electrically perfect joint for long constant service.

Write for Rheostat Catalog • Ward Leonard Electric Co., 51, South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

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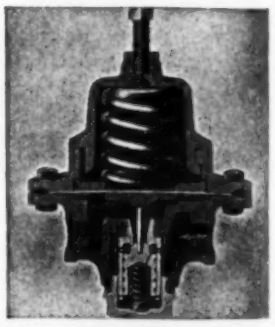
ACCURATE CONTROL with the DAVIS No. 13 PRESSURE REGULATOR



Built-in Strainer • Single Seat
No Leakage • No Sticking
Self-Contained

HERE is everything you need for good pressure regulation on small steam, air, or gas-operated equipment: Quality construction, accurate control, trouble-free service, low maintenance — and yet the Davis No. 13 Pressure Regulator is priced low enough to be practical for individual installations on unit heaters, presses, jacketed kettles, sterilizers, vulcanizers and other small equipment.

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Write today for your copy of the Davis Pressure Regulator Service Chart

DAVIS VALVES
DAVIS REGULATOR COMPANY

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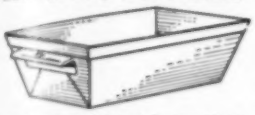
BERGER STEEL TOTE BOXES are Back Again!

Reg. U. S. Pat. Off.

Berger Stacking Box (above) is reinforced at all corners and top edge. Offset rib permits easy stacking when full. Drop or fixed handles.



Nesting Box (above) is one piece construction with tapered sides and reinforced top edge and ends. Has fixed-type punched handles.

Scoop Front Stacking Box (above) ... handy, visible container for small parts. Offset reinforced rib simplifies stacking. One drop handle and cross rib permit easy handling. Has label holder.

● Yes, popular Berger Steel Stacking, Nesting and Scoop Front Boxes again are available for small-parts handling. Use them in production areas, shops and warehouses to speed up handling, protect parts against damage, save space, time, labor and money. Berger Tote Boxes are strong and sturdy, electrically spot-welded and reinforced to withstand rough usage. Made in 16- and 18-gauge steel, enameled or plain. Choice of sizes. Write today for full information and prices.

REPUBLIC STEEL

BERGER MANUFACTURING DIVISION
REPUBLIC STEEL CORPORATION • • • • CANTON 5, OHIO

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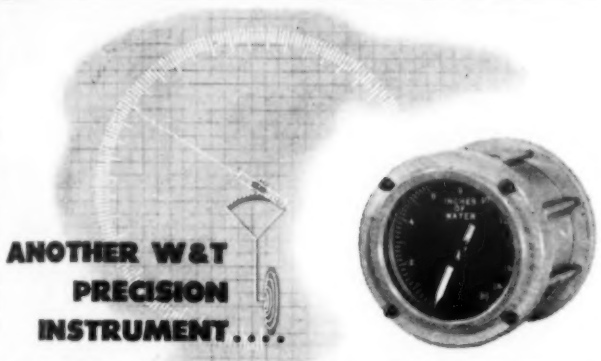

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The W&T Precision Low Pressure Gauge

The W&T Precision Low Pressure Gauge has proved to be the answer to the problem of measuring low pressure accurately by successful use in such fields as aircraft flight testing, automotive research work, and engine and ventilation studies. Built with custom care from its beryllium copper capsule to its individually calibrated dial, the W&T Low Pressure Gauge is a precision instrument of the highest grade.

Here are some of its outstanding features:

- Sensitive to 1 part in 500
- Available in ranges from 0-10" of water to 0-400" of water
- Measures differential pressure
- Unaffected by gravity or acceleration
- Equipped with expanded scale if desired

Write now and tell us your low pressure measuring requirements. We'll be glad to help — no obligation, of course.

A-78

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ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey • Represented in Principal Cities

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AMAZING NEW KIND OF
SIT DOWN RIDING TYPE STACKER

LOW PRICED!

RUNS ALL DAY FOR 22¢*

Cuts Handling Costs *IN HALF!*

LOW UPKEEP!

Everyone knows the famous Automatic high lift Transtacker that moves, lifts and stacks material with "touch of thumb" ease.

Now you get all the benefits of this miracle truck, but with the added advantage that you now can drive it like an automobile. Operator sits comfortably while handling your material with ease . . . lifting, tilting and driving.

With a telescopic lift mechanism, the Transrider Stacker raises load to 130 inches, with an overall height of only 83 inches for clearance through standard boxcar and factory doors. Single lift, before telescopic uprights are extended, is 66 inches. Capacities 2000 and 3000 pounds.

Carrying a 36-inch load, it can right-angle stack in nine-foot aisles. *Battery charging cost, for normal operation, is as little as 22c a day, maintenance and replacement cost exceedingly low. Write for catalog and complete money-saving facts.

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Transrider Stacker
A PRODUCT OF AUTOMATIC

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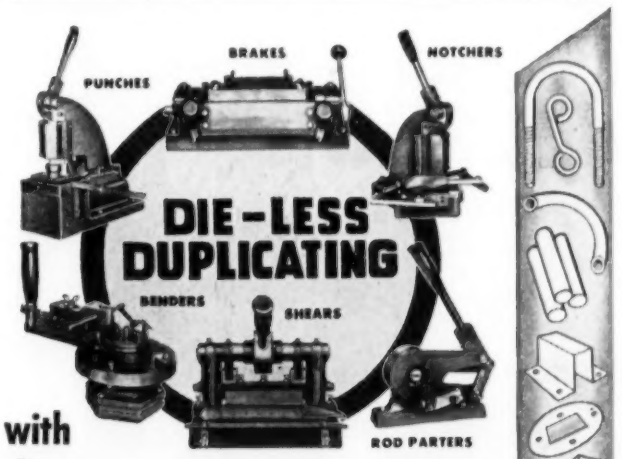

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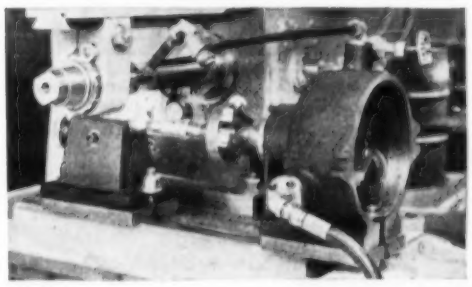

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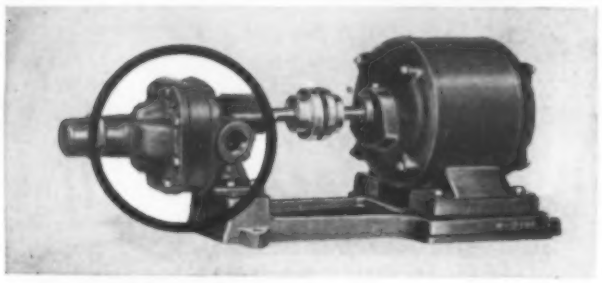

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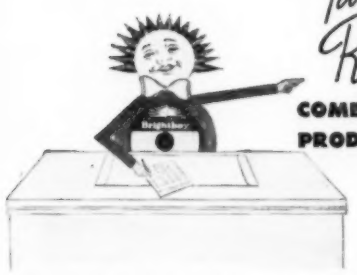

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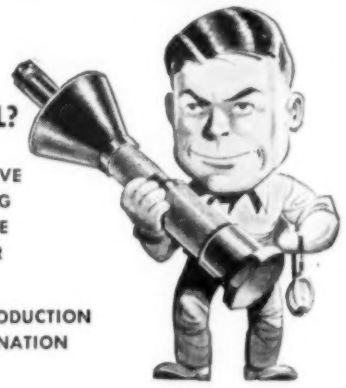

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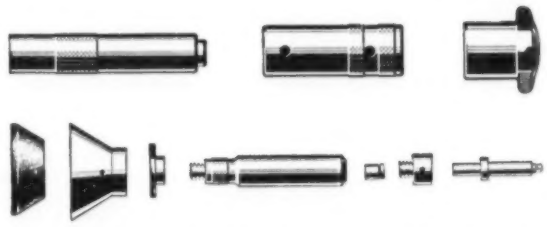

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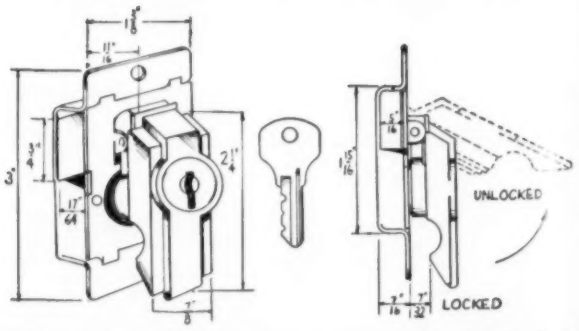

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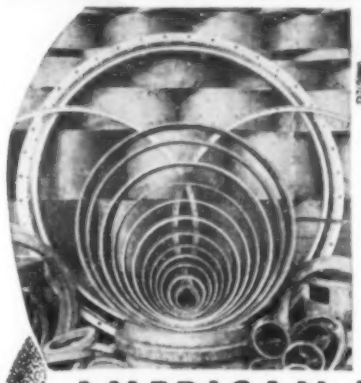

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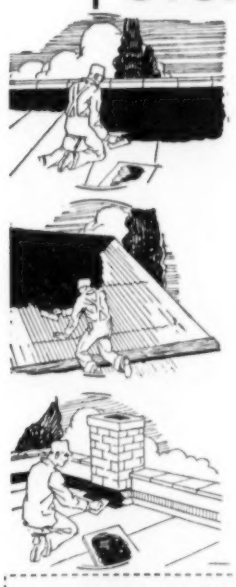
Mention Item NED-3755 when writing

STOP ROOF LEAKS



on any type roof
WITH
STONHARD ROOF RESURFACERS

Fast . . . positive . . . easy—Simply trowel or brush STONHARD ROOF RESURFACERS just as they come in the container. No heating or involved preparations necessary—they can be applied by any maintenance man (even if the roof is wet!) and they are effective on any type roof. Prevent costly leaks or expensive repairs—send for complete information on STONHARD ROOF RESURFACERS

Since 1922

STONHARD COMPANY
Building Maintenance Materials
101 STONHARD BUILDING
1306 SPRING GARDEN ST.,
PHILADELPHIA 23, PA.
Send for FREE Folder

STONHARD COMPANY
101 Stonhard Building 1306 Spring Garden Street,
Philadelphia 23, Pa.

Please send me a FREE copy of "Roofing Folder"

Firm .....
Mr. .....
Address .....
City ..... Zone ..... State .....

Mention Item NED-3756 when writing

You realize big savings in labor costs by using Stearns lifting magnets to move your material. These pigs, for instance, can be moved much more economically with a Stearns Magnet than by the laborious, time-consuming, inefficient and dangerous hand method. Invest in a Stearns lifting magnet—it will pay for itself in a few months. Write today for illustrated descriptive bulletin.

STEARNS MAGNETIC MFG. CO.
653 S. 28th St., Milwaukee, Wis.
SEPARATORS • CLUTCHES • PULLEYS • DRUMS • MAGNETS

▲ Mention Item NED-3757 when writing ▲

● If you are bogged down by overhead from excessive man handling operations in your plant, let Lorain Cranepower ease the load. For one Lorain crane, using such attachments as hook, sling, grapple, clamshell, dragline bucket or electric magnet, will handle any or all jobs at a savings in time and money—and release valuable manpower for other work.

Lorain cranes are available as crawler-units or with rubber-tire mountings (self-propelled or two-engine types). Call your local Thew-Lorain Distributor for full details.

This free booklet will be mailed upon request.

The Thew Shovel Company
LORAIN, OHIO

▲ Mention Item NED-3758 when writing ▲

This improved bond is starting another trend in the abrasive industry. Used only in Chicago Grinding and Mounted Wheels—the result of half a century testing and experience.

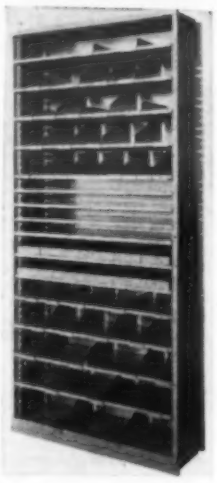
FV Bonded Wheels will produce finishes that are superior and have a lower RMS without sacrificing production.

FREE ENGINEERING SERVICE. Let us help with your grinding problems. Send for Engineering Data Sheet making it easy for you to submit information from which we can recommend the wheel to do your job best.

CHICAGO WHEEL & MFG. CO.
Makers of Quality Products since 1895
1101 W. Monroe St. Dept. NE Chicago 7, Ill.

▲ Mention Item NED-3759 when writing ▲

PARTS BINS



Usable for storing or stocking such items as nuts, bolts, screws, washers, dies and moderately heavy production parts, Flexi-Bins are factory-assembled heavy-duty one-piece welded units. Construction of sides permits shelves to slide in and out on 1½-inch centers, and they can be changed around to meet specific requirements without tools. Dividers can be changed also, since they snap into place by means of special attachment to label holder. Trays can be obtained in three different sizes, and each one can be subdivided with maximum of four dividers to give five openings per tray. Trays slide in and out, and have stops so that they cannot be pulled out and contents spilled on floor. Bins are available in five colors. Made by **Borroughs Mfg. Co.,** 3011 N. Burdick St., Kalamazoo, Box 111, Mich.

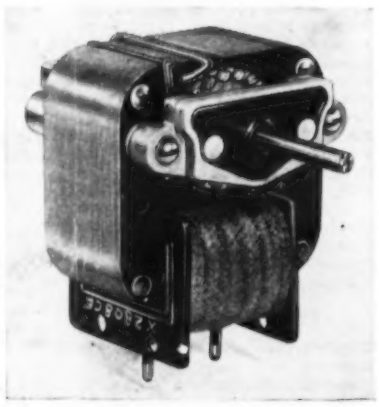
▲ Mention Item NED-3760 when writing ▲

BEARING LUBRICATING PAD

Used to replace packed waste in journal boxes of industrial cranes, yard locomotives, ladle and ingot cars, ore unloaders and similar rail equipment, Stapax lubricator is engineered to fit practically any type of friction bearing journal housing. Highly absorbent felt carries oil from bottom of journal box to shaft. Pad is formed in shape of loop with in-built flat steel springs concealed between felt layers. It fits snugly in housing and presses upward to maintain contact with shaft. Only service required is to check oil level. Thus, journal box can be sealed, and oil level filler can be installed. Made by **Lubrication Products Co.,** 5607 Herman Ave., Cleveland 2, O.

▲ Mention Item NED-3761 when writing ▲

SHADED-POLE MOTORS



To hold rotor in proper alignment with stator core and to avoid distortion resulting from impacts in handling, Raytheon model 230 shaded-pole 3200-revolution per minute motor is equipped with rigid die-cast bearing brackets. As a result of reducing air gap eccentricity, rumble has been minimized. Motor can be obtained in ratings of from 1/190 to 1/75-horsepower continuous duty and equipped with two internal cooling fans. Made by **Russell Electric Co.,** 360 W. Huron St., Chicago 10, Ill.

▲ Mention Item NED-3762 when writing ▲

INDUSTRIAL NoDrip

COVER PIPES TANKS, WALLS

Anyone can brush, trowel or spray NoDrip on any clean, dry surface. Goes on like plaster, forms a seamless, protective coating, *STOPS CONDENSATION DRIP.*

NoDrip keeps equipment and floors safe and dry; prevents corrosion of metal and prolongs its life. Acid, alkali and brine resistant. Comes in 1, 5 and 55 gal. drums, ready for use.

TRY NoDRIP—Apply NoDrip to a small area, compare the results with uncovered portions

Send for NoDrip Handbook

J. W. MORTELL CO.
526 BURCH ST. KANKAKEE, ILL.

▲ Mention Item NED-3763 when writing ▲

Drilling Jobs Once in Awhile?

VAN DORN ¼" Junior Drill $28.00

VAN DORN ½" Junior Drill $45.00

Van Dorn JUNIOR DRILLS are Perfect for your needs!

No need to buy more costly production drills for *intermittent drilling.* Buy Van Dorn ¼" and ½" Junior Drills and save unneccessary expense. These handy Drills are "tailor-made" for men who need good, low-priced Drills for light-duty service. Particularly useful in industrial maintenance work. Save you time and money on hundreds of odd jobs. Look them over at your nearby Van Dorn Distributor. Write for free catalog to: The Van Dorn Electric Tool Co., 762 Joppa Road, Towson 4, Md.

FOR POWER SPECIFY
"Van Dorn"
(Div. of Black & Decker Mfg. Co.)
PORTABLE ELECTRIC TOOLS

▲ Mention Item NED-3764 when writing ▲

PORTA-FLOW
GIVES ECONOMICAL **MOVEMENT** TO PRODUCTION

100% PORTABLE
- *sturdy*
- *flexible*
- *light weight*
- *adjustable*

ALVEY-FERGUSON PORTA-FLOW CONVEYORS are like an extra crew. Quickly moved to any spot, they help move products without unnecessary handling. Available in straight or curved sections and mounted on portable, adjustable supports. Superior in design and construction—your best portable conveyor buy!

Write for folder—today!

THE ALVEY-FERGUSON COMPANY
34 Disney Street *Established 1901* Cincinnati 9, Ohio
Offices or Representatives in Principal Cities—Coast to Coast

CONVEYING EQUIPMENT
Alvey-Ferguson
METAL PRODUCTS CLEANING EQUIPMENT

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TOUGH RESURFACER

FOR BROKEN Concrete or Wood Floors

Makes Durable Patch or Complete Overlay

Resurface or patch broken concrete floors with tough RUGGEDWEAR resurfacer. Here's a material which will stand up under the most punishing traffic conditions. Simple to install—no chopping or chipping required. Merely sweep out the spot to be repaired—mix the material—trowel it on. Holds solid and tight right up to irregular edge of old concrete. Provides a firmer, tougher, smoother, more rugged wearing surface. Used indoors or out. Dries fast.

MAIL COUPON for FREE TRIAL OFFER

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Offices in Principal cities
Please send me complete RUGGEDWEAR information and details of TRIAL ORDER PLAN—no obligation.
Name .....
Company .....
Address .....

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